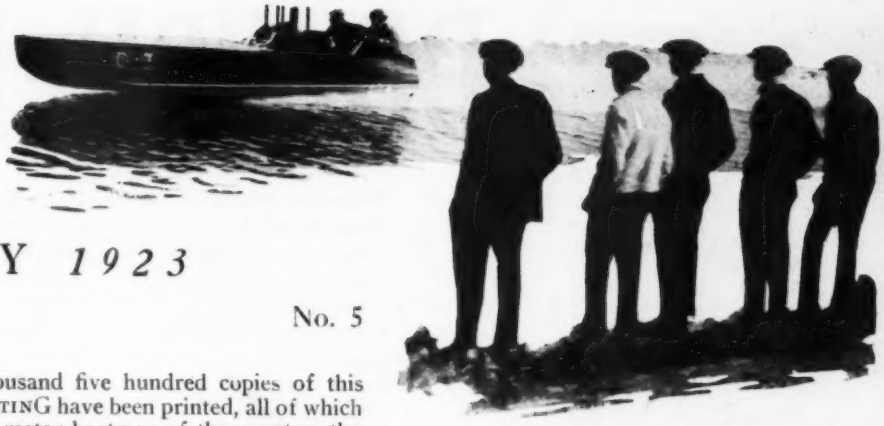
MOTOR BOATING
119 WEST 40th ST.
NEW YORK, N. Y.



Who wouldn't stop and look! We can guess what is passing through the mind of each one of them. Can you?

MAY *1923*

VOLUME XXXI No. 5

TWENTY-FOUR thousand five hundred copies of this issue of MoToR BoatinG have been printed, all of which were ordered by the motor boatmen of the country, the newsdealers and other distributing agencies before the presses were started. Of this enormous number, over sixteen thousand copies will be sold on the newsstands at twenty-five cents each. Even with this large newsstand distribution, we feel positive that thousands of motor boatmen will be disappointed and turned away with the "Sold Out" remark. Try as hard as we can, we do not seem to be able to get sufficient supply of copies on sale for the requirements of all. There may not be any financial advantage by being a subscriber, but at least you'll be assured that your copy of MoToR BoatinG will reach you regularly and that someone else doesn't beat you to it.

DO you realize that 24,500 copies of a boating publication is quite an achievement? In our case, it represents a gain in circulation of 12½% over the May, 1922, issue. It shows how the interest in the sport of motor boating is spreading, not locally, but internationally. There is not a state in the union nor hardly a country in the world which does not receive copies of MoToR BoatinG.

NEARLY all the boat yards in the country as well as the engine manufacturers are busier than ever before. New craft as well as old are going into commission everywhere.

Remarkable developments in hull design, particularly high speed craft will be seen this summer. Never before was there so much interest in the major racing events. Entries are coming in almost daily for the Gold Cup and Sweepstakes races at Detroit, although the events will not take place until Labor Day, in September.

Therefore, taken as a whole, it might not be amiss to remark: a glorious season is before us!

THIS issue of MoToR BoatinG is just brim full of real feature articles. All of them are so good that it is hard to single out any particular ones for commendation. However, I do want to suggest that every one read the article on the subject of Galleys, which Mrs. Bowen has prepared for us and which is printed on pages 15-17 of this number.

AND now for an announcement extraordinary! With the next issue of MoToR BoatinG, we will begin a series of famous sea stories known as Green Pea Pirates, by the greatest of writers, Peter B. Kyne. There is no doubt about it: these are the funniest and the best stories of the sea ever written. Remember, they start in the June number of MoToR BoatinG.

CHARLES F. CHAPMAN, *Editor.*

CONTENTS

The Cook's Opinion of the Galley 13-15
Motor Boating Wins A New Booster When President Harding Joins the Crew 16-17
Enchantress III, a Spacious House Yacht ... 18
The Lure of the Canadian Wilds 19-20
Art In Exhaust Lines 21
Sand Peep, A Fast One 22
In the Land of Society and Sunshine 23
Big Breakers, Sea and Spray Stop Speedy Cruisers 24-25
Our Sports and Recreations Demand the Help of Gasoline 26-27
How the Camera Catches Mile-a-Minute Craft 28-29
What You Should Know About Insurance 30
Express Cruiser Owners, Ahoy 31
Grace, A Popular Cape Cod Cat 32-33
Solving the Secrets of the Compass 34-36
Small Motor Boats, Their Care, Construction, and Equipment 37-40
Prize Question No. 1: Construction Of a Neat Boarding Ladder 37-38
Prize Question No. 2. A Complete Electric Power Station 39-40
Quality In a Small Engine 41
Motor Boatman's Chart No. 43, Lake Michigan—Northern Part 42
Lake Michigan as A Cruiser's Playground .. 43
Atlantic Coast and Harbor Charts 44
All Yacht Clubs Asked To Co-operate 45
Yard & Shop 46-47
The Big Opportunity of the Motor Boat Industry 48

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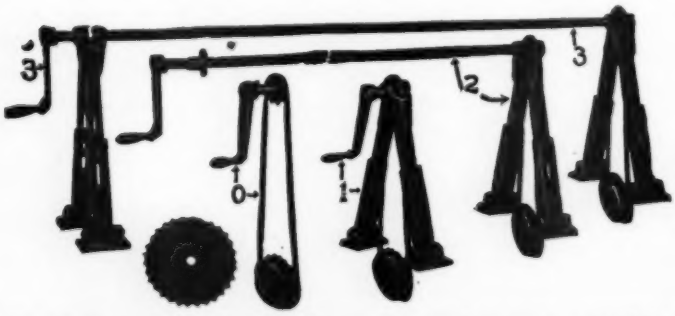

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Advertising Index will be found on page 128

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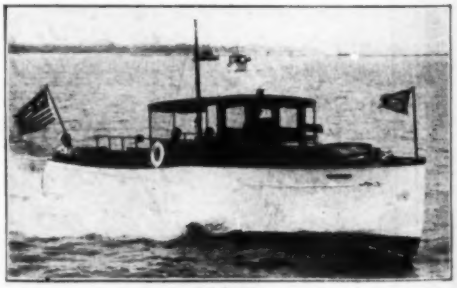

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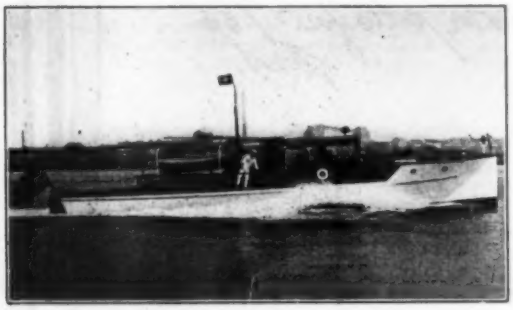
A smaller express cruiser for four persons. Speed 23 miles. Described in Bulletin 242.



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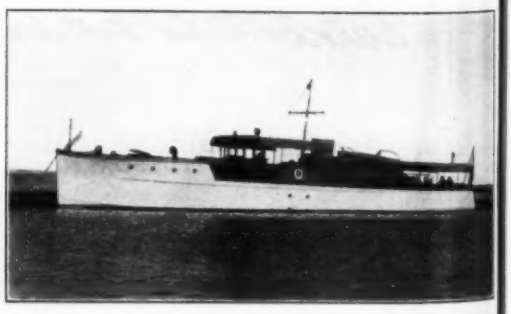

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Advertising Index will be found on page 128

The Cooks Opinion *of the* Galley

Roast Dinner Boats, Boiled Dinner Boats, and Fried Dinner Boats, All Are Subject to the Call of the Dinner Bell

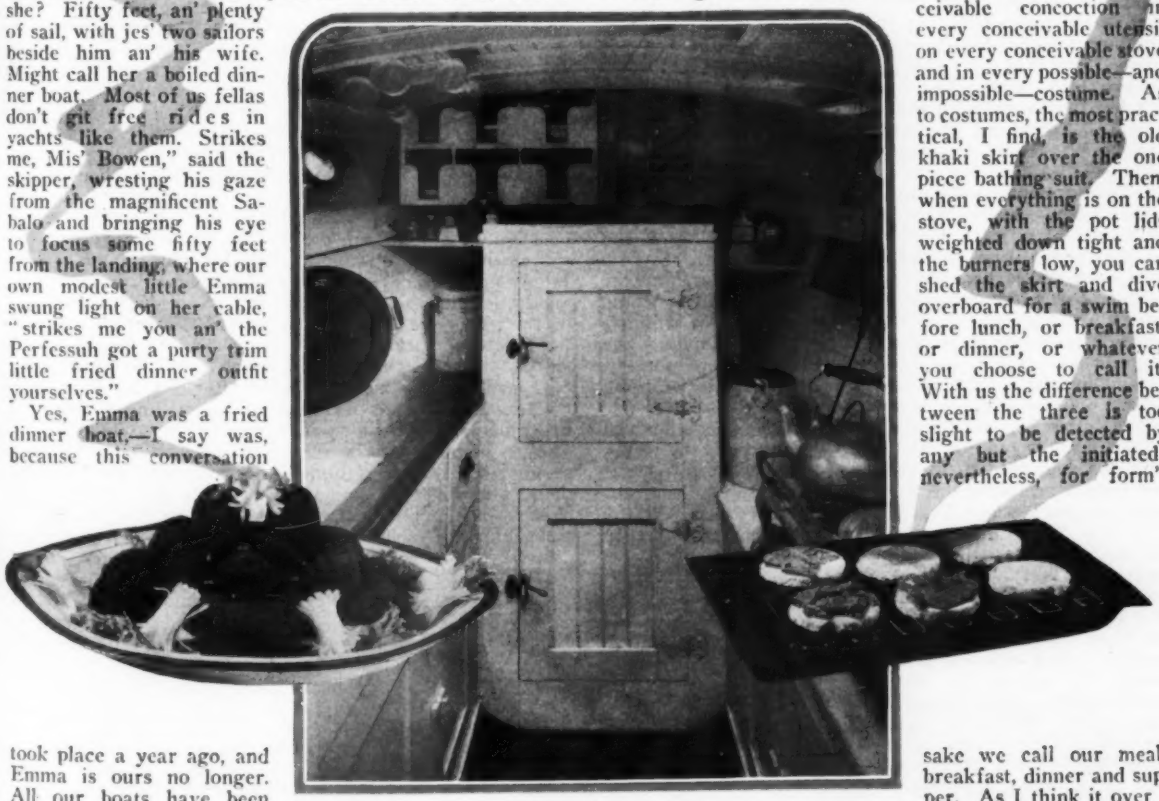
By Mrs. Ezra Bowen

Photographs courtesy Good Housekeeping

OUR friend the Annapolis skipper drew from his pocket a fresh quid of cut plug. Then he shifted his weight, which was considerable, to what was possibly a more comfortable position on the hard boards of Clark's dock. A fresh summer breeze was blowing in from the Chesapeake, and in the harbor the boats, from the bugeye cargo schooners out by the Naval Academy to the fleet of motor cruisers near the landing—our own little thirty-two footer among them—pulled at their anchors.

"Speakin' of pleasuh boats," said the skipper, "speakin' of pleasuh boats, they's three kinds; roast dinner boats, boiled dinner boats, an' fried dinner boats. Sabalo out yonder, her with the two grey funnels—burns roun seventy-five gallons of oil an hour—they tell me the owner carries a French fella to cook fer him. She's in the roast dinner class, sho' nuff. Remember that little schooner yacht was in here from Philadelphia las' week? Neat, warn't she? Fifty feet, an' plenty of sail, with jes' two sailors beside him an' his wife. Might call her a boiled dinner boat. Most of us fellas don't git free rides in yachts like them. Strikes me, Mis' Bowen," said the skipper, wresting his gaze from the magnificent Sabalo and bringing his eye to focus some fifty feet from the landing, where our own modest little Emma swung light on her cable, "strikes me you an' the Perfessuh got a purty trim little fried dinner outfit yourselves."

Yes, Emma was a fried dinner boat,—I say was, because this conversation took place a year ago, and Emma is ours no longer. All our boats have been fried dinner boats. (Here the Professor, whom we will call Captain, because Captain he is for a three months' cruise every summer—I am Cook and Crew—here the Captain objects. He says he knows college professors don't earn roast dinner boat salaries, but have I, he asks, forgotten the Bay Queen? Bay Queen was the Captain's first cruiser, a sound old Maurice River oyster schooner made over into a yacht, with three staterooms, a dining saloon, a black cook and a blacker boy to assist him. Undoubtedly, she was a boiled dinner boat. No, I have not forgotten Bay Queen, though I cruised on her for only two days,—a memorable week-end, for not once was I requested or required to go into the galley! Not to do the potatoes, or the onions, or so much as boil a cup of coffee. There were two reasons for this. One was the black cook—Andrew would no more have tolerated me in the kitchen than he would a man-eating shark—the other was that at that time, some four years ago, the Captain and I had not as yet joined forces. We had not, to use a familiar metaphor, embarked upon the seas of matrimony, upon the long, long cruise. Therefore I was pampered, and deferred to; I sat on deck with the Captain, and fished. I knew not woman's place, which I have since learned is—in the galley! Yes, girls, no use kicking against fate! In bungalow apron or knickers, ashore or afloat, and particularly, I find, afloat, that is where we belong, in the galley. Until the Captain and I joined forces, I had never so much as boiled an egg; afternoon tea in a white dress was my limit. In three summers of cruising I have stewed, and I have fried, every conceivable concoction on every conceivable utensil on every conceivable stove and in every possible—and impossible—costume. As to costumes, the most practical, I find, is the old khaki skirt over the one piece bathing suit. Then, when everything is on the stove, with the pot lids weighted down tight and the burners low, you can shed the skirt and dive overboard for a swim before lunch, or breakfast, or dinner, or whatever you choose to call it. With us the difference between the three is too slight to be detected by any but the initiated; nevertheless, for form's sake we call our meals breakfast, dinner and supper. As I think it over I see that the difference is a matter of onions; a total omission of onions at breakfast, a frank abundance of onions at dinner, and a subtle, a barely apparent, flavoring of onions at supper.



Who wouldn't enjoy meals prepared in an attractively arranged galley

Indeed, as the Captain reminds me, Bay Queen was a boiled dinner boat, but I say Bay Queen does not count, because I had no share in her, and because black Andrew would not let me in the galley. So I repeat that all our boats have been fried dinner boats. First of all, there was

Foods neatly served improve their value hundred fold. Dainty service makes the meal an event

Fundulus. Here let me disclaim all responsibility for that name. We bought her second hand, and although we dared not change her name, we soon ventured the liberty of calling her Fundy. Fundy was an auxiliary ketch, thirty-six feet over all, a deep-sea cruiser designed by Hand "for himself," as the yacht broker's papers assured us. And of all the comfortably-fashioned one-man boats, capable that is, and easily handled, that I have ever been aboard, Fundy took the cake. Again I use the past tense, because in an evil moment, after our first summer's cruise, we sold Fundy.

Fundulus had an ideal little galley. In the first place, the ketch was flush deck, the engine was aft by itself in a compartment with a big skylight. Forward of the engine was the cabin, containing two wide spring berths, drawers, lockers, and four thirty-gallon fresh water tanks. There was no headroom here, but you don't need headroom when you are asleep; and directly you rolled out of bed you stepped forward into the galley where a five-foot-eight cook like the writer had four good inches to spare over her head. We called it the galley because every thing in it was designed for the interesting functions of cooking and eating, but it was really the main cabin. It had a little table which, when you were through eating, you either let down or pulled up, I forget which. (Here the Captain makes a sound suspiciously like a snort. He says, Why, it pulled up, of course! Don't you remember the chain and hook system I fixed for it?)—a little table with seats on both sides and lockers above and below. This was on the starboard side, the opposite wall—experts I suppose would not call it a wall, but in the proper naming of a ship's parts I have ever been the despair of the Captain—the opposite wall was entirely taken up with lockers, shelves, and cubbyholes. Now, to my mind there are lockers *and* lockers. There is the very deep locker which is impossible to keep clean because the shelves are so close together you cannot scrub beyond the first foot. And there is the locker with the door that sticks tight when you want to open it and bangs open when the boat rolls and, despite all precautions, lets out a sticky flood of jam or a dozen nice, squashy tomatoes. Fundy's lockers were not quite perfect, but they had none of these worst features, and best of all, they had a magical, mysterious way of keeping dry, despite the fact that our three months' cruise was on that wettest of waters, the Atlantic Ocean. The Captain says I have the cart before the horse, that the cupboards were dry because the deck was tight, but I have seen tight boats and musty cupboards before, and—well, perhaps I am superstitious about lockers, I have had such dreadful experiences with them. At any rate, if ever I have my ideal boat, there will be no solid wooden doors on any of *my* lockers. No, and the Captain will have to forego the exquisite pleasure of drilling ventilation holes in the doors. And if there is one thing the Captain loves, it is to drill holes. He drills them in patterns, a circle, with a hole in the middle, or a triangle, or—but there will be no more holes, for there will be no wood to drill. My doors will be copper screened, with the screening enamelled white.

Poultry can be prepared in the small galley but requires the same skill and attention as is called for ashore

Above Fundy's lockers was an intricate set of shelves and cubbyholes. Surely, when Mr. Hand designed those shelves, some feminine domestic being must have peeped over his shoulder and guided his pencil. For they appealed directly to the heart of the seagoing female. There were a great many compartments, not silly little cubbyholes marked Tea or Salt or Coffee, but generous, copious compartments well guarded for rolling and pitching, yet easily reached, even to the cornermost. The Captain says I am so funny about those shelves, he says he never could see much in them—figuratively speaking—but I reply that he was not Cook, he was Captain. He didn't get meals when things were sliding and rolling and banging; he didn't stand with one hand on the frying pan handle and with the other grope for salt in dark cupboards with uncertain doors.

But the frying pan handle brings us to the stove, and as every cook knows, in the galley the stove is the one supremely important and discussable object. Of course Fundy's stove was right next to the lockers, it was bounded on the left by the main mast, and it faced aft. Forward of the galley was stowage space, toilet, paint closets, etc., lighted by a hatch and two ports. To the right of the stove, within reach of a long-armed cook, were bins for coal and kindling wood. These, after we did away with the Shipmate Range, we used for onions and potatoes. I never think of that Shipmate without a tiny twinge of conscience, very tiny, to be sure, but still a twinge. She was so eminently a part of Fundulus; artistically, she belonged there, and when we first stepped inside that galley I exclaimed over her tiny compactness. Examining the draft, or opening the oven door, I may even have blurbled, after the reputed manner of females, "Oh, *isn't* it cute!" The Shipmate would have been splendid for cruising north of Cape Cod—we started from Portland, Maine—but we were bound south, and the Cook somehow could not see herself getting up a coal fire on August days off the Jersey coast or in the mild climate of Chesapeake Bay. So, where we lay at the Portland Yacht Club the Captain rigged up a watch tackle to haul the Shipmate out the companionway hatch onto the dock. During this performance I was stationed below, my part being, as per orders, to "guide that stove across the galley up through

the hatch, and not let her foul anything." This may sound easy, but I never saw a stove act like that one when once the Captain swung her off the floor. She seemed possessed to get herself into clumsy attitudes, to dart at every available speck of white paint. Fifty times, before we maneuvered her outside, I thought she would crash down on top of me. Bear in mind, indulgent reader, that this was my first real cruise, that is to say, the first cruise I had made without a black Andrew to do the dirty work—the first cruise when I had perforce to roll up my sleeves and mix into things. But we landed that Shipmate on the dock, and thereupon sold her to a junk man—junk men, to us, are among the most useful of mankind—sold her to a junk man for four dollars. In her place we installed a two-burner blue flame kerosene stove which throughout the entire cruise behaved in a most exemplary manner. The Shipmate stovepipe, which the junk man had not required, we left sticking cheerily out of the cabin roof. We knew it was a fraud to have it there, but it looked so shippy and professional we could not bear to take it down. Eventually, as I remember, it got wobbly, and we did away with it.

When I say the kerosene stove behaved in a most exemplary manner, I mean it approached as near to perfection as any boat stove can. And that isn't very close. But for a small boat I unhesitatingly endorse the blue flame kerosene. Fuel is cheap, the stoves have a good big tank; no cleaning is necessary beyond trimming the wicks, and they give a strong, steady flame that will have your kettle singing in no time at all. In a heavy sea the oil of course sloshes around and makes cooking next to impossible, but in a very heavy sea there is usually so much else to do on board ship besides cooking that nobody minds a stray meal or so of peanut butter sandwiches or apples and crackers or whatever the larder provides. With us it was the Captain who knocked together these cold feasts — and they were good, too! The ceremony ran like this: the Captain would say, "Well, Kate, it's time to eat, but you can't cook anything down there today." And I would say, brightly, "Oh, yes I can," and stagger down the companionway, only to emerge in a few momoments looking battered and careworn. I would take the Captain's place on deck and try to finish what he was doing—usually some impossibly masculine task — while he dived into the galley, to reappear shortly with something appetizing in each hand—or on paper plates, if his sea legs felt steady enough to make the trip so burdened. Masculine-made meals may not be fancy, but always, always they are filling!

Would that we had ever, throughout our cruising career, carried a kerosene stove! After Fundulus, Emma was our

(*Continued on page* 84)

Chap Says

That an Ice Cream Appetite Doesn't Go Well with a Boiled Dinner Boat, But—!

NO matter how rough the weather is, there's no reason why you shouldn't eat well—provided your ingenuity and galley facilities are what they should be.

In the famous race against train time which Gar Jr II made from Florida to New York there were hours on end when we were in the water only long enough to bounce out of it again. Cooking conditions were not what you would call ideal, but we ate three hot meals a day. When eggs were fried, the pan was covered to keep the eggs from the deck—but they were fried, and eaten from a deep dish. Gar himself was the cook and it had to be some dusty on the open ocean to keep the waffle irons stowed at breakfast time.

When it came time for a shot of Java we found it impossible to pour it from the Thermos bottle to a cup, but every man in the crew supplied himself with a rubber tube and sucked the coffee from the bottle. Where there's a will—or a thirst—there's a way.

Alfred Loomis tells me that when Hippocampus made her cruise to Panama it wasn't all fair weather. At times he had to brace his head against the cabin roof so that he could have all his hands free for cooking and holding the stove in the galley. He got the habit of boiling beans and other canned foods before the tins were opened, and never had an explosion. However, you have to be an optimist to follow his example. He and his intrepid crew ate only twice a day, but that was a matter of laziness rather than necessity. Only once in a blue moon did they eat a meal that hadn't been prepared on or near the fire.

When it isn't three men in a boat, but a man cruising with his wife on a fifty-fifty basis (You cook one meal and I the next) it too often happens that the engine has to be fixed around meal times. You remember how the formula goes—"All right, my dear, if you want to adjust this infernal reverse gear, I'll gladly fry the chops. I know you got breakfast, but you'll admit I was fairly busy cleaning spark plugs at the time."

This is a violation of the cruising contract, but, human nature being what it is I don't see what can be done about it.

However, if a woman's place is in the galley, the galley should be arranged to suit her convenience. Mrs. Bowen has some pungent words to say on this subject, and whether you sail boats or only design them you will find in her article substantial food for thought—boiled dinner food, that nourishes and strengthens, and gives you a zest for cruising.

And don't forget that conditions for cooking afloat are never so bad that (1) they haven't been worse, and (2) they can't be made better.

CHARLES F. CHAPMAN, *Editor.*

As in all other operations proper implements facilitate the work. Results in the galley require care. A good cook can produce a masterpiece with limited facilities, while a poor cook with the best equipment is helpless

Motor Boating Wins *A New* Booster

The Choice of Our President Is None Other Than Our Own Favo His Playground and a Fast Motor Boat for His Toy—Miami Beach Others Down There, Carl G. Fisher Saw to It That There Were No of Boat in Sight Turns President Harding Into an Enthusiastic and

(Above) President Harding (the one with the Panama hat) going aboard James A. Allison's motor yacht Sea Horse at Miami Beach just before leaving for a fishing trip to Cocoloba Club at Caesars Creek

Carl G. Fisher of Miami Beach, host to President Harding during his stay in Southern Florida. As might be expected Mr. Fisher saw to it that the President had the best in the world at his disposal and if there's any place in the world where the best in the world is to be had, it's Miami Beach. Not the least of the luxuries there are the fast motor boats. President Harding tried them all and became a great booster

Sea Horse with President Harding on board speeding along at a twenty-knot clip on Biscayne Bay. The President is lying down on the forward deck, resting after a strenuous game of golf on the Miami Beach links

When President Harding Joins *the* Crew

rite Pastime: Motor Boating—The President Chooses the Water for Attracts the Nation's Chief Executive With His Party, and Among Regrets—Thrills and More Thrills With a Tryout of Every Kind Eager Motor Boatman

Of course the fastest boat in the world as well as the prettiest girls had to escort the President, so Gar Wood's express cruiser Gar Jr., II was chosen to do the honors. With Commodore Wood at the wheel and a thirty-knot speed awaiting a touch of the throttles, what more could even a President desire?

Photographs by Charles F. Chapman, Editor of MoToR BoatinG, taken from on board Gar Jr. II, while accompanying President Harding down Biscayne Bay.

The Cocoloba Cay Club at Caesars Creek, Biscayne Bay, which was turned over by the members to the President for his exclusive use. Webb Jay, prominent motor boatman of Chicago, is president of this club

The movie men as usual missed no opportunity and followed the President on his yachting trips. In this view the photographers look like real salts but they're far from it if the truth were known

Photographs by Joseph N. Pearce

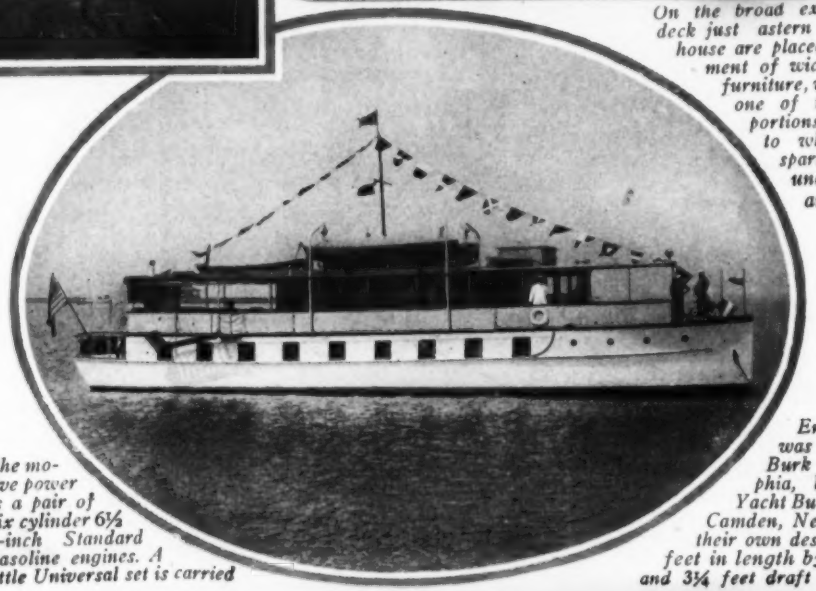
Enchantress III, A Spacious House Yacht

Possibilities for Comfort and Cruising Capacity Exemplified in This Modern Craft of Popular Type

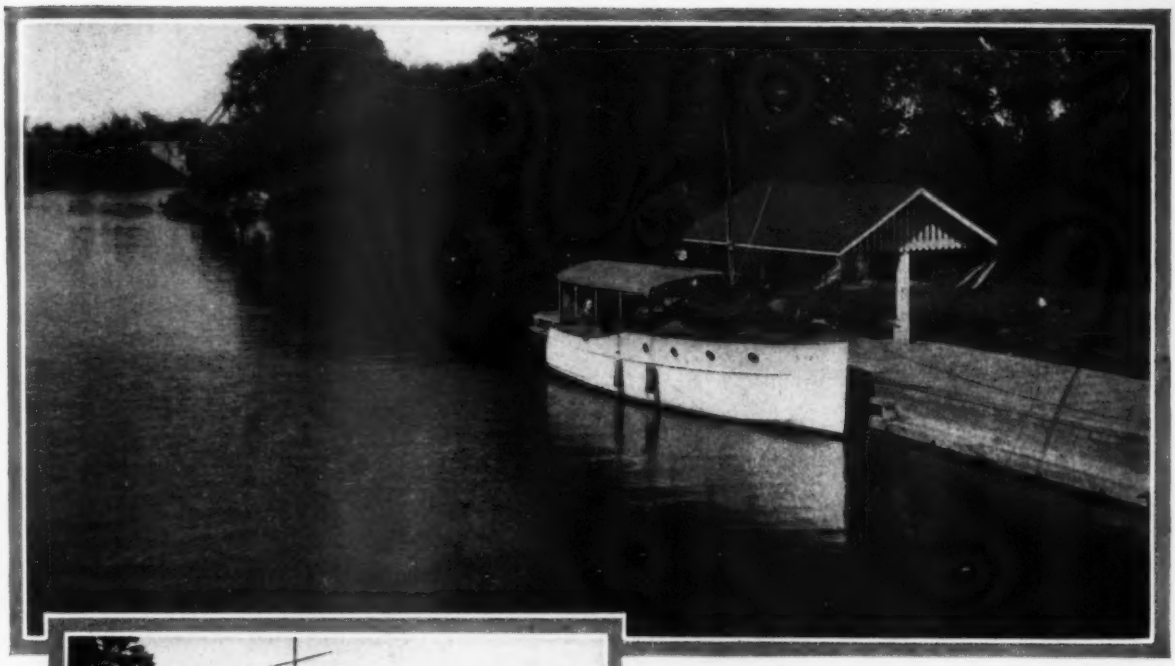
The upper deck is reserved for the living and dining saloons. The forward portion of the deck house encloses the pilot house and chart room, while amidships accommodates the dining room. A spacious living room is just astern and is decorated in approved home style

On the broad expanse of after deck just astern of the deck house are placed a fine assortment of wicker chairs and furniture, which make this one of the pleasantest portions of the boat to while away the spare hours while under way or at anchor in port

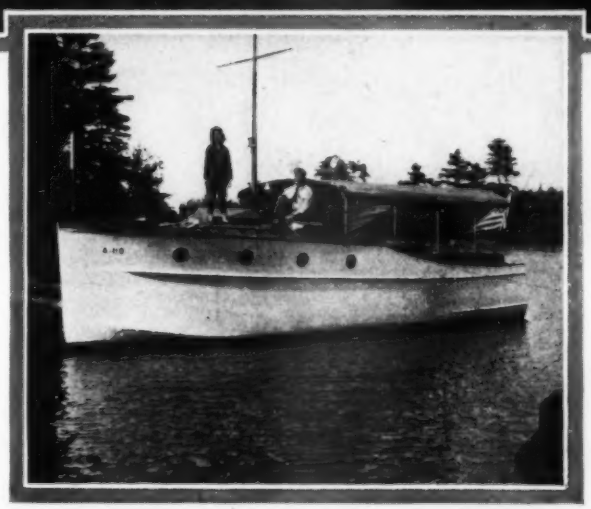
The motive power is a pair of six cylinder 6½ 8-inch Standard gasoline engines. A little Universal set is carried



Enchantress III was built for Louis Burk of Philadelphia, by the Mathis Yacht Building Company, Camden, New Jersey, from their own designs. She is 83 feet in length by 14 feet beam and 3¼ feet draft



Wananishe tied up for the evening just beyond the Severn bridge



At Belle Isle, one of the 30,000 odd in Georgian Bay

The Lure of *the* Canadian Wilds

You Will Be Thrilled and Charmed by the Experiences of a Long Cruise Through Waters That Have No Equal

By Chas. F. Smith

IN all the world no cruise like this. You of the fraternity who have heard and heeded the Red Gods' call, to whom the scent of the pine and the balsam, and the sheen of the sparkling water are the breath of life; to whom the throb of the motor is fine music, the rush of the wind and tilting decks the poetry of motion, sit and take notice. Whether you are a seasoned veteran or a rank novice at this royal sport, you will be charmed and thrilled as never before, when you experience the pleasures of this 800-mile cruise that has no equal.

There is enough open water to give plenty of thrills, and much of the way is through protected inland waters where the cruiser can be tied up most anywhere in safety and comfort. This is especially true of that part of the cruise from Trenton on the Bay of Quinte to Port Severn on the Georgian Bay, known as the Trent Waterway.

This is a succession of beautiful rivers, lakes and canals extending for 236 miles. The controlling navigable depths are 8 feet 4 inches from Trenton to Peterborough and 6 feet from that point to Washago. Larger boats can make the run from Trenton to Washago and as far as Swift Rapids on the Severn River, but at present only boats not exceeding 35 feet in

Starting up the electric marine railway at Swift Rapids

length and 9 feet beam can pass over the marine railway at that point, and again at Big Chute 8 miles farther down the river. It is reported, however, that the Canadian Government is considering increasing the size of the cars to carry boats 50 feet in length over the railways, which are electrically operated and at no trouble or expense to boat owners. No tolls or fees are charged anywhere on the trip, but lock masters and bridge tenders are human, and a cheery greeting and a good cigar will help to make friends everywhere. You meet with kindness, courtesy and prompt service from every Government employe, many of whom are returned soldiers. A good map of the Trent Waterway can be obtained free from the Department of Railways and Canals, Ottawa. All waters as far as Washago are fairly well buoyed, but charted only from Trenton to Peterborough. A set of these charts can be obtained for $3.50 from the Superintendent of the Trent Canal, Peterborough. They will be found valuable especially in Rice Lake, which is shallow and weedy and

At Trenton on Georgian Bay

Many lock tenders welcome a little assistance now and then

crossed by an old railway causeway having only two navigable openings, buoyed, but not any too easy to find. At Peterborough we obtained from the Secretary of the Board of Trade, a descriptive pamphlet containing several maps of sections of the waterway from Peterborough to Orilla. We found the maps quite useful, but rather insufficient as they show courses only in a general way. No charts of the waters from Orilla to the Georgian Bay are obtainable at the present time, but valuable information about the courses can be obtained from maps in the possession of the manager of the power plant at Swift Rapids. The buoys below there are rather infrequent and insufficient. Courses are taken mainly from shore markers and must be carefully watched for and followed. We were told that the Canadian Government has in course of preparation charts of the waterway from Peterborough to the Georgian Bay, and possibly they may be obtainable this summer; but with the maps, charts and information now obtainable, the careful navigator will have no difficulty in making the cruise without accident.

The ultimate purpose of the Trent Waterway was and is, to provide a shorter route for the transportation of grain and other commodities from the West to the St. Lawrence River, but its present condition must confine its use to smaller craft used mainly for pleasure. The Canadian people invite and urge everyone to use it for that purpose. The chief value of the enterprise today, is the use of water power from the many dams, in generating electric light and power which is distributed all over that part of the Province of Ontario. There are hundreds of summer cottages, located seemingly in every beautiful spot along the lake shores and on the islands, and the fisherman will have no difficulty in finding all of that sport he may desire. Food supplies, fresh milk and ice can be obtained all along the way. One of the most enjoyable features of the trip, is the spirit of hospitality you meet with everywhere; the kindly interest in your welfare and the offer of friendly service and information, that touch the heart and make you feel at home among the Canadian people.

The beauties of the Georgian Bay country are too numerous to set forth in this short article, but to the lover of nature who winds his way in and out among the thousands of islands for 265 miles, there is a never-ending charm that lures him onward to new scenes and new experiences. He will leave it with reluctance, and a desire and determination to see it again. Charts of Lake Erie, Lake Ontario and

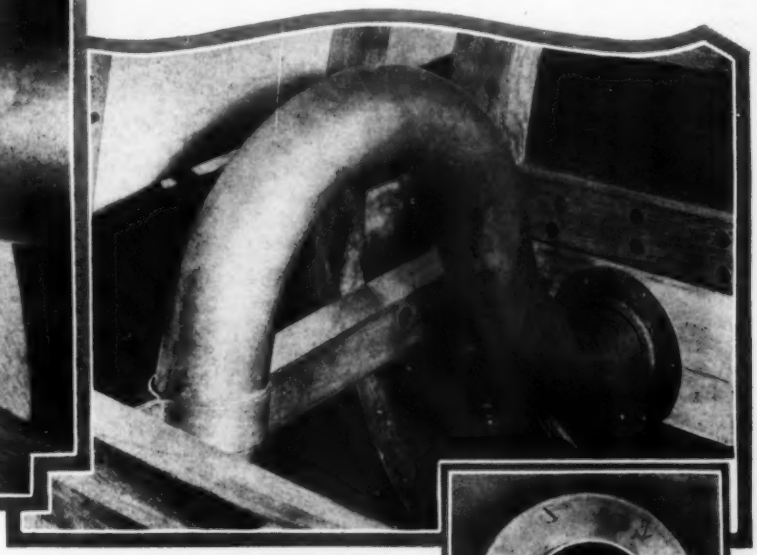
(*Continued on page 96*)

Photograph by M. Rosenfeld.

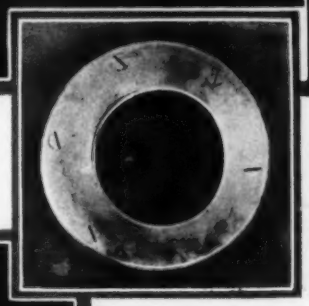
Art *In* Exhaust Lines

Clever Workmanship Distinguishes Such Details as the Installation of the Exhaust Piping on Boats Built by the Consolidated Shipbuilding Corporation

At the turn of the bilge a neat filler block shaped to the frame and the copper exhaust tube is screw fastened to the oak frame. A copper band secures the tube to the block and holds it securely in place against the frame

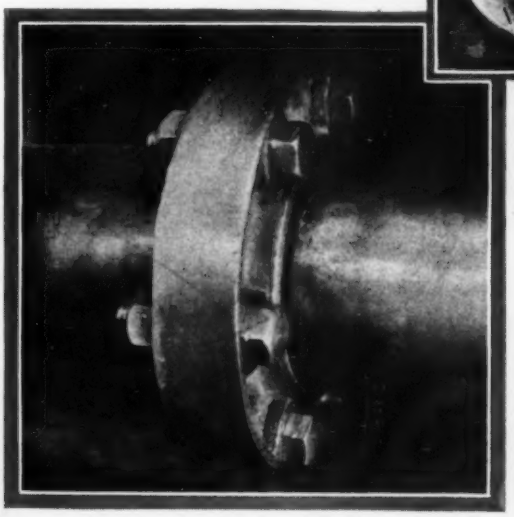


Just before leaving the hull at the stern an expansion bend is worked into the tubing. This tends to absorb vibration and expansion and keep it from the hull



Outside the transom a neat copper finishing ring is screw fastened to the wood, the tube comes through this and is trimmed off flush on the outside

A filler block on the inside of the transom supports the pipe while a hand hammered copper flange also on the inside, secures it and holds the packing material in place



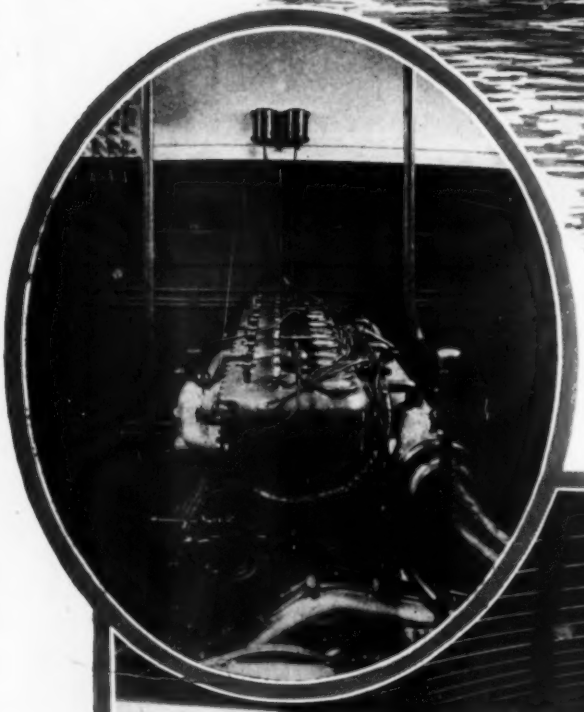
A joint in the tubing is made up by means of two brass flanges, the tubing is expanded into these and when pulled up tightly it is difficult to find the division between the parts

Photographs by N. L. Stebbins.

Sand Peep, *a* Fast One

Speedy 48-Foot Cruiser With Some Unique Features Which Are Attractive

Sand Peep, the new express cruiser designed by Ralph E. Winslow, has been equipped with a six cylinder 5¾ x 7-inch 150 h.p. Speedway gasoline engine



AN unusually attractive cruiser was recently completed from designs by Ralph E. Winslow for a yachtsman who will use it at his summer home at Seal Harbor, Maine. The requirements for the boat were, that the speed be fairly high and that accommodations for at least six persons should be provided together with suitable quarters for the crew. The bridge, which is entirely enclosed and protected by glass, is fitted with side seats and a permanent roof. The power plant in the engine room consists of a six-cylinder Speedway engine of 150 h.p. The engineer's berth is also in this compartment, as are the auxiliary electric plant and lockers.

The enclosed bridge deck is an attractive feature which enables the owner and his party to be together when the boat is under way

In *the* Land *of* Society *and* Sunshine

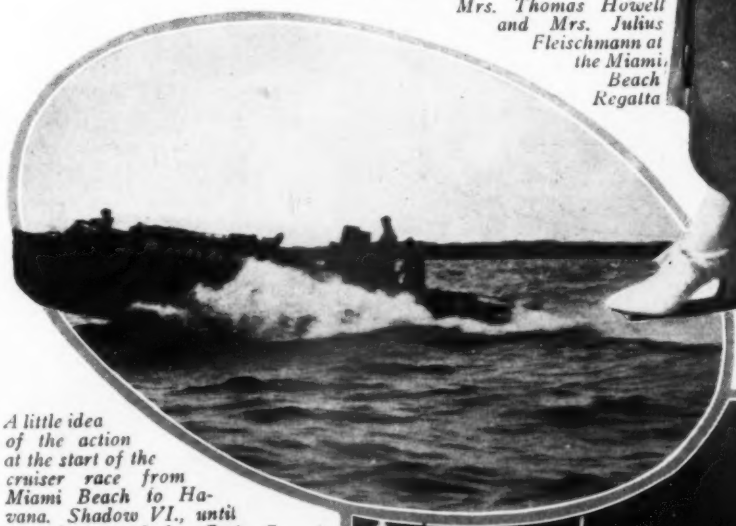
Where the Express Cruiser Is Almost a Necessity and Motor Boat Racing Serves to Awaken the Whole Country from Its Season of Yachting Dormancy

ONCE again Miami and Miami Beach have demonstrated that their part of the world is the center of the yachting universe while the rest of the country freezes, and craft which should have a fifty-two week per year in commission season are buried under snow drifts up to their decks. More and more yachtsmen are realizing the possibilities of winter sports afloat and never before have so many motor boats made their owners and those aboard appreciate the glorious sunny days, which follow one another in an almost endless procession, and the balmy winds from the gulf stream, blowing night as well as day, keeping the entire winter season always in step with the now famous slogan, which tells the whole truth in one line, " It's June in Miami."

Motor Boat racing is largely responsible for Biscayne Bay's popularity as the "Lloyds Harbor of the South" and the southern terminus of every boat which goes from the north to escape laying-up. While it is a fact that the races themselves do not compare with classics held elsewhere during the season

(*Continued on page* 104)

Mrs. Thomas Howell and Mrs. Julius Fleischmann at the Miami Beach Regatta

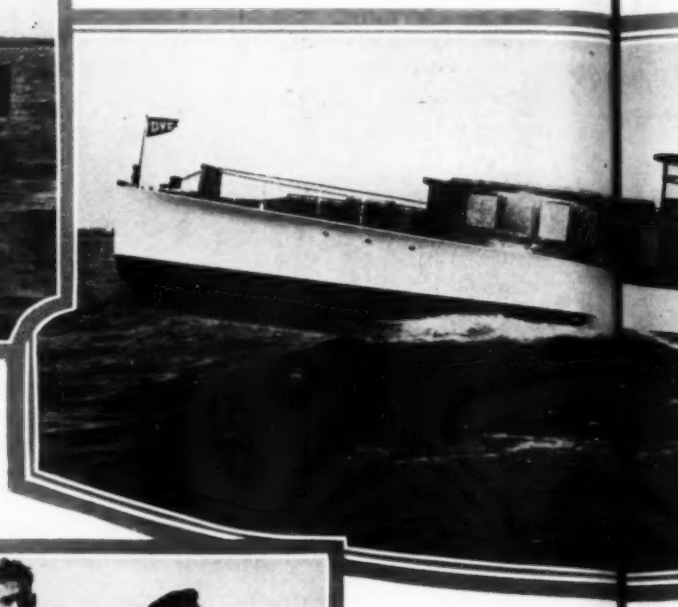


A little idea of the action at the start of the cruiser race from Miami Beach to Havana. Shadow VI., until recently owned by Carl G. Fisher, but now by Maurice Heckscher, of New York. The illustration does not portray accurately the size of the sea running at the time, which was so great as to cause the race to be abandoned

Commodore Harry Greening (at the left) with the rest of society, view the races from the side lines. After the races were finished the Commodore remarked "never again from the side lines" and wired an order for a Gold Cup boat

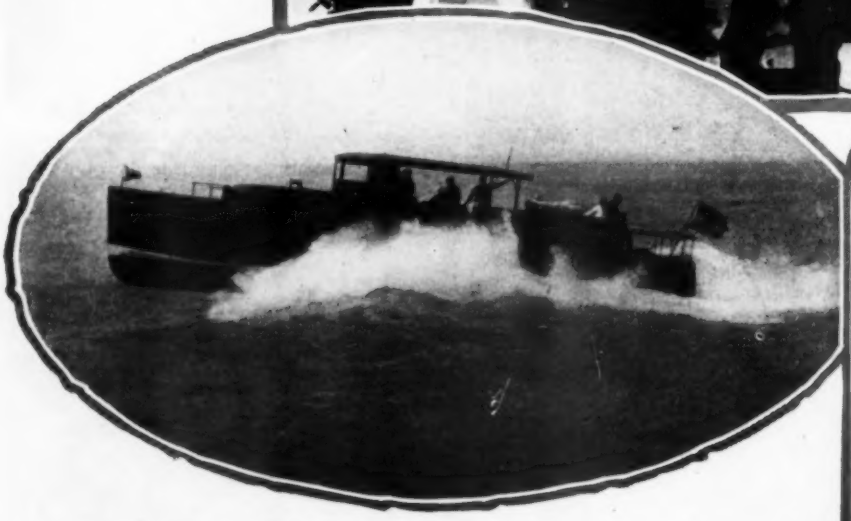
Big Breakers, Sea
Stop Speedy Cr

Above: Marinette, ex Shadow V, owned by Edward Rompf, one of the starters in the race to Cuba, but compelled to make port before crossing the Gulf stream on account of the high seas running at the time of the race



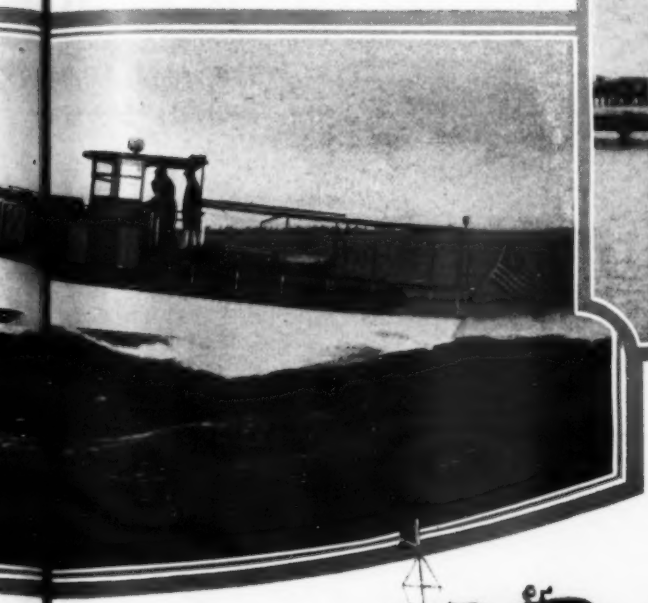
The crew of Gar, Jr., II, left to right,—Joseph Kinney, Commodore Gar Wood, Glen. Bassett of Detroit and Captain Post

Below: Commodore J. P. Stoltz, of the New York Motor Boat Club, with Mrs. Stoltz, promising Joseph Elsener of Miami Beach that for next year's regatta his new hotel overlooking the race course will be ready and placed at the disposal of the Regatta Committee



Gar, Jr., II hitting a high spot off Key West, Florida. Anyone who thinks that this type of craft is not a good sea-boat should take a few ocean trips in her

rs, Sea *and* Spray
ly Cruisers



The crew of Altonia II, Harry Bouterse, Captain Eugene Heinkel, Charles R. Pease, and Charles J. Smith

Below: Crew of Shadow VI, game to the very core. This boat, after the seas had broken in one of the glass wells in her bottom, causing her to nearly fill with water, was put back to port by her crew, hauled out on the ways, a new bottom fitted and a fresh start made. The time required to do this work not only made it necessary to run down much of the treacherous inside Florida Hawk channel at night, an almost unheard of accomplishment, but it took away her chance to win any of the prize money, as a time limit of twelve hours was placed on the race—still this fact did not stop Captain Clyde Hews (seen at the wheel in the illustration) and his crew from continuing gamely on

At top: Altonia II, the Purdy built cruiser, owned by A. C. Newby of Indianapolis. This boat is powered with two twelve-cylinder Allison motors. Any rumors which may have been current previously that Altonia II was not a good sea boat or that the motors were not operating satisfactorily in this cruiser were shown to be incorrect by the remarkable run she made from Miami to Key West

Above: Whirlwind, winner of the Southern Express Cruiser Championship race. This boat is a Consolidated craft powered with two Speedway motors—she is owned by Julius Fleischmann of New York, and is of a type excellently suited for service in Florida waters

Our Sports *and* Demand *the* Help

Future Generations Will as the Wonder Age Of

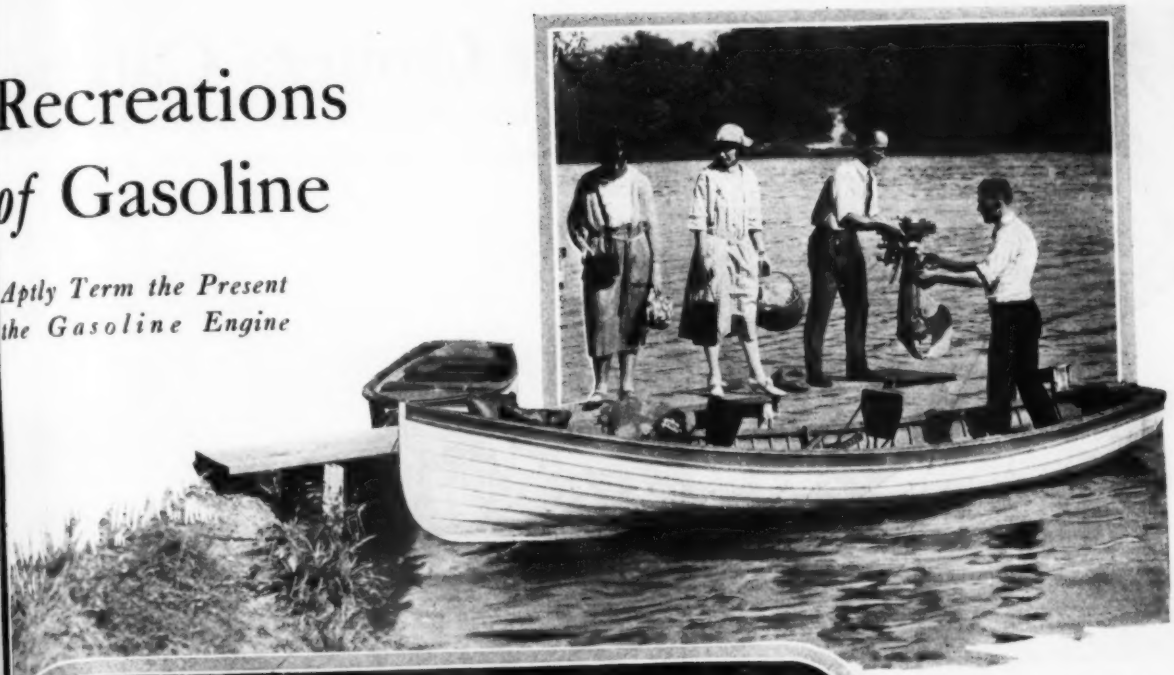
What a fine day for a picnic in the country is the general comment on these clear days of spring time. Let's pack some lunch and take a ride out to the lake, but be sure to take the handy outboard motor in its compact carrying case

Oh, what a pretty lake; let's stop and explore it. Unpack the outboard engine and carry it down to that boat tied to the wharf. We can have a splendid time sailing around and have our luncheon on that little island away down at the other end of the lake

Have we forgotten anything? We have the lunch basket, the engine and the cushions, that is all we need for a fine outing

Recreations of Gasoline

Aptly Term the Present the Gasoline Engine



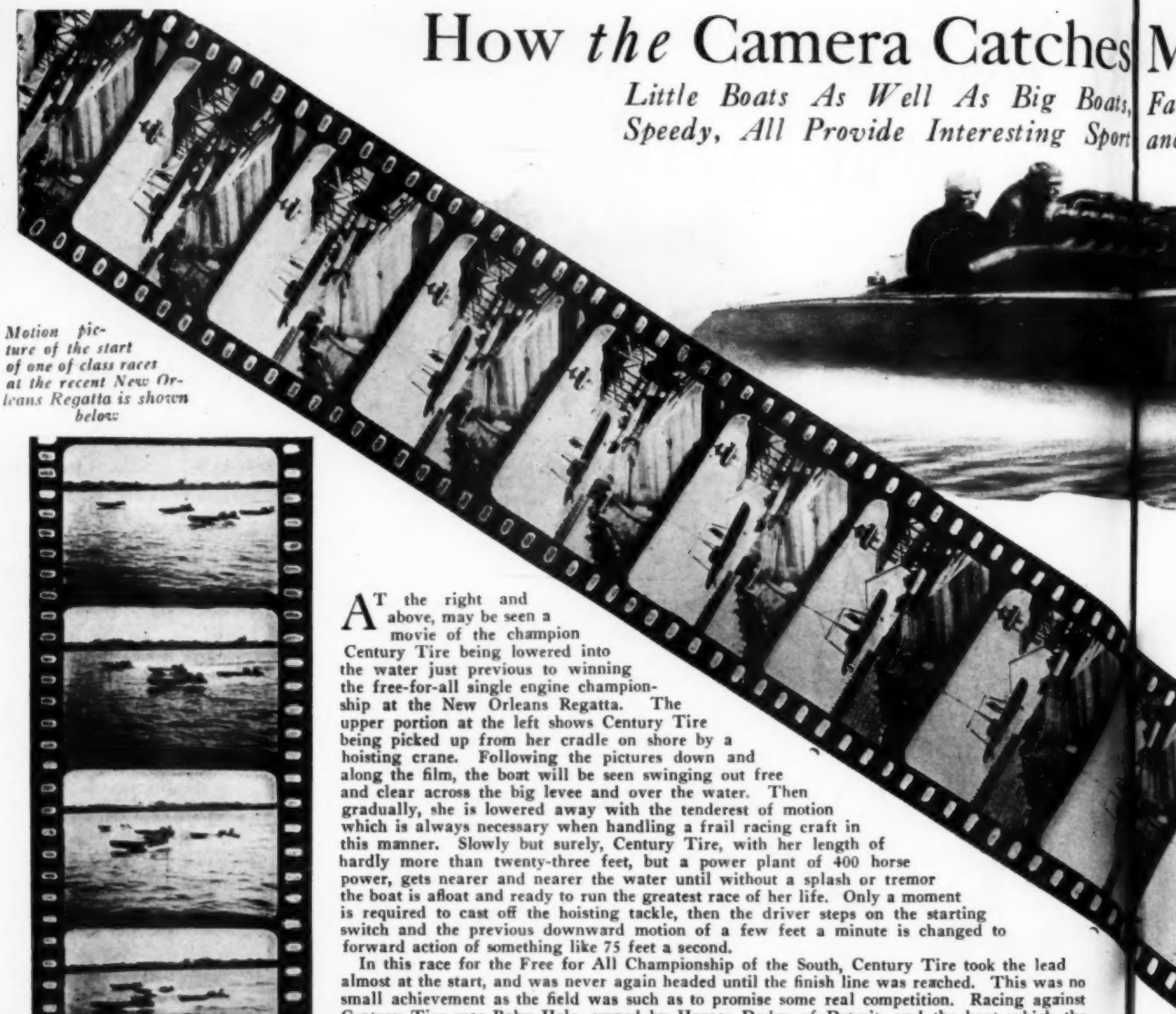
Let's hurry, you get in Tom, and I will hand you the engine so that you can attach it to the transom at the stern while the rest of us are stepping into the boat

Are you all ready? Get comfortably seated while I start the engine and let's get going. We can run entirely around the lake; beats rowing all sorts of ways

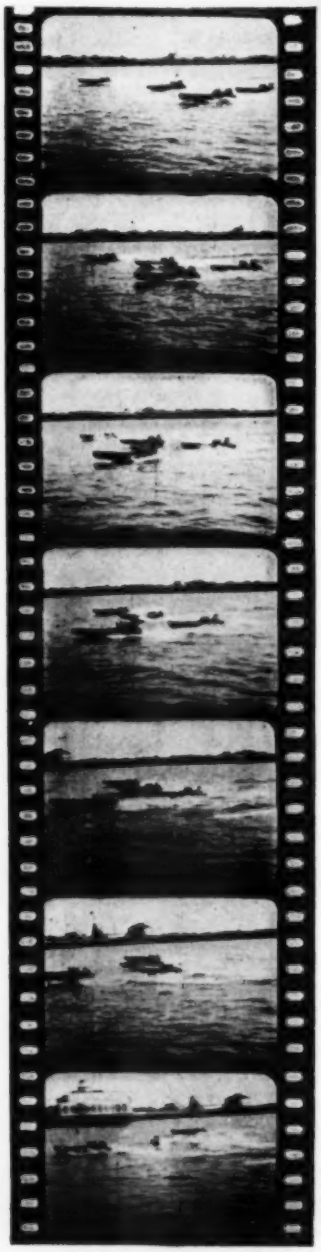
Here we are; isn't this a dandy place to picnic? The boat is run close to shore while the propeller is tilted up to keep it off bottom in shallow water near shore

How *the* Camera Catches M

Little Boats As Well As Big Boats, Fa Speedy, All Provide Interesting Sport an



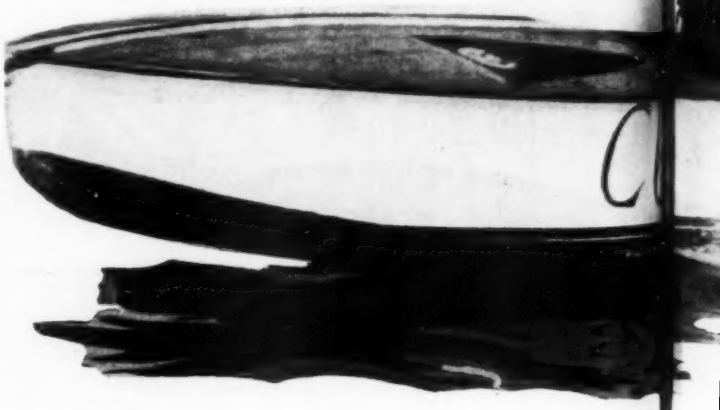
Motion picture of the start of one of class races at the recent New Orleans Regatta is shown below



AT the right and above, may be seen a movie of the champion Century Tire being lowered into the water just previous to winning the free-for-all single engine championship at the New Orleans Regatta. The upper portion at the left shows Century Tire being picked up from her cradle on shore by a hoisting crane. Following the pictures down and along the film, the boat will be seen swinging out free and clear across the big levee and over the water. Then gradually, she is lowered away with the tenderest of motion which is always necessary when handling a frail racing craft in this manner. Slowly but surely, Century Tire, with her length of hardly more than twenty-three feet, but a power plant of 400 horse power, gets nearer and nearer the water until without a splash or tremor the boat is afloat and ready to run the greatest race of her life. Only a moment is required to cast off the hoisting tackle, then the driver steps on the starting switch and the previous downward motion of a few feet a minute is changed to forward action of something like 75 feet a second.

In this race for the Free for All Championship of the South, Century Tire took the lead almost at the start, and was never again headed until the finish line was reached. This was no small achievement as the field was such as to promise some real competition. Racing against Century Tire was Baby Holo, owned by Horace Dodge of Detroit, and the boat which the world has been so interested in recently as a possibility to give Gar Wood's Miss America a real race, but the results of this event showed that Baby Holo is far below the class of other Detroiters' racing craft. Miss America II is without doubt twenty or twenty-five miles an hour faster than Baby Holo. Baby Holo's performance at New Orleans was a failure as she did not finish. Sheldon Clark's Miss Chicago took second money, defeating besides Baby Holo, Lady Orleans and Miss Dubonnet. Century Tire's speed for the 15-mile race was 52.1 miles an hour.

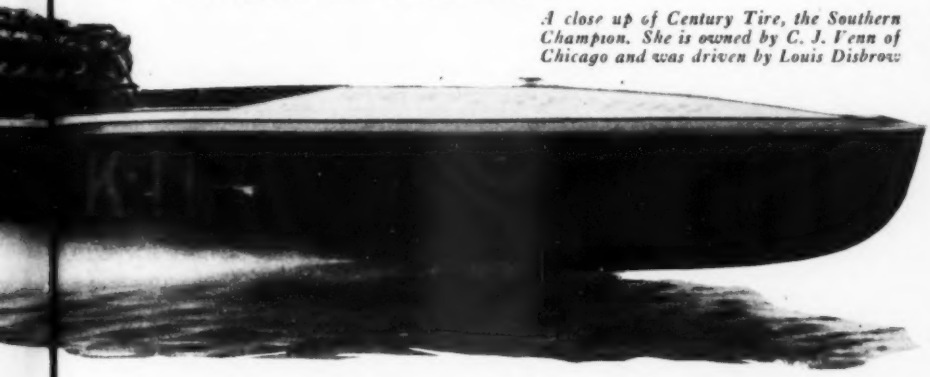
P. D. Q. VI., owned by A. C. Strong of Evanston, Ill., the champion of the 215 cubic inch runabout class



Mile *a* Minute Craft

Fastest In the World and Some Not So and Close Finishes At New Orleans Regatta

Photographs by the Editor of MoToR BoatinG



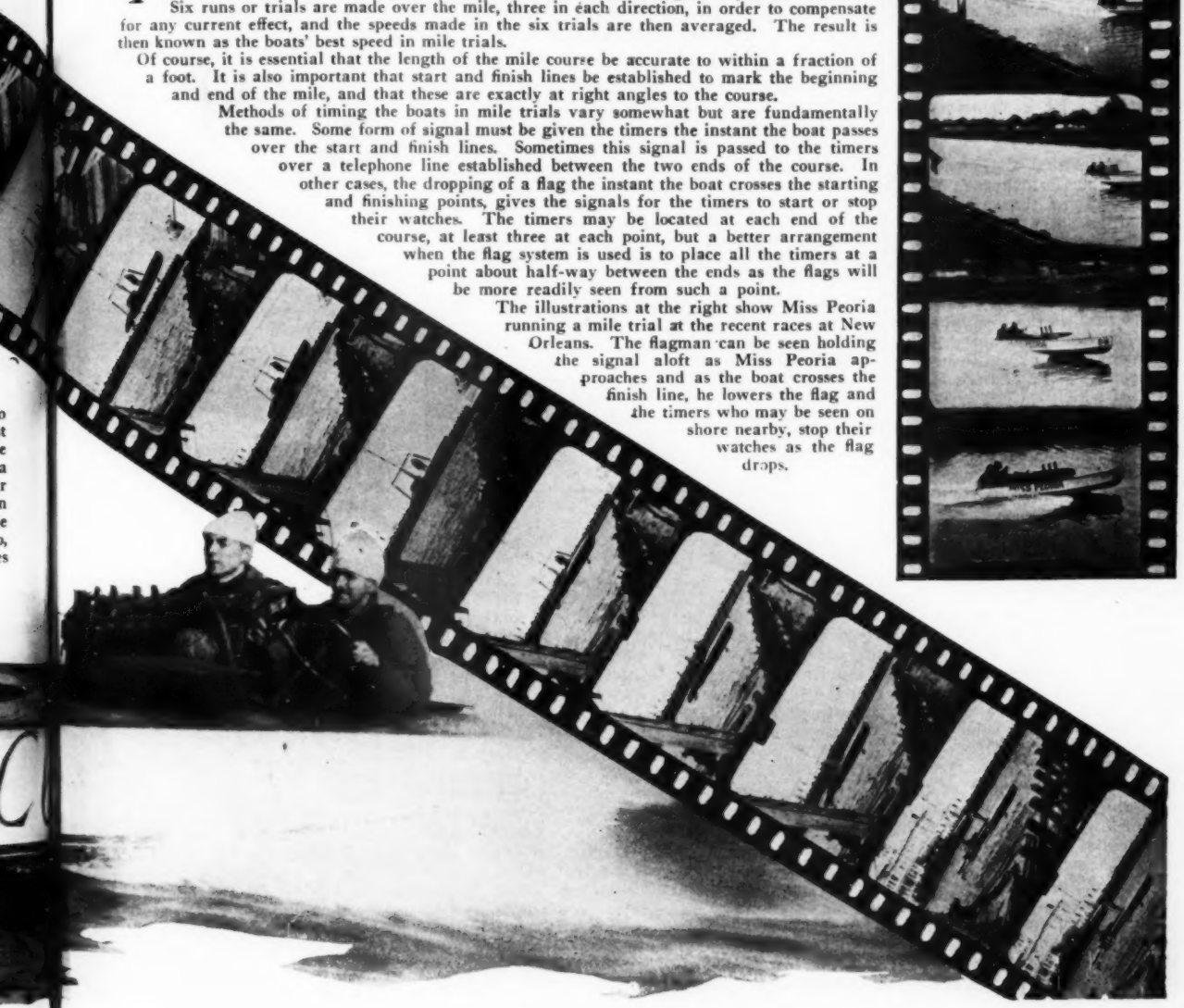
A close up of Century Tire, the Southern Champion. She is owned by C. J. Venn of Chicago and was driven by Louis Disbrow

THE determination of the fastest speed of which a boat is capable, is one of the most important features of every regatta. The unit of distance used is generally the statute mile. Six runs or trials are made over the mile, three in each direction, in order to compensate for any current effect, and the speeds made in the six trials are then averaged. The result is then known as the boats' best speed in mile trials.

Of course, it is essential that the length of the mile course be accurate to within a fraction of a foot. It is also important that start and finish lines be established to mark the beginning and end of the mile, and that these are exactly at right angles to the course.

Methods of timing the boats in mile trials vary somewhat but are fundamentally the same. Some form of signal must be given the timers the instant the boat passes over the start and finish lines. Sometimes this signal is passed to the timers over a telephone line established between the two ends of the course. In other cases, the dropping of a flag the instant the boat crosses the starting and finishing points, gives the signals for the timers to start or stop their watches. The timers may be located at each end of the course, at least three at each point, but a better arrangement when the flag system is used is to place all the timers at a point about half-way between the ends as the flags will be more readily seen from such a point.

The illustrations at the right show Miss Peoria running a mile trial at the recent races at New Orleans. The flagman can be seen holding the signal aloft as Miss Peoria approaches and as the boat crosses the finish line, he lowers the flag and the timers who may be seen on shore nearby, stop their watches as the flag drops.



What You *Should Know* About Insurance

Some of the Mysteries Connected With the Protection of a Motor Boat Made Clear

By E. H. Tucker

THE purpose of this article is to explain in plain language, and as briefly as possible, the various forms of insurance written on yachts. We will consider the various forms in their relative order of protection to the owner.

The first and most restricted form is against the hazard of fire only while the yacht is laid up at a specified place, such as a repair yard or basin. The rate for this coverage is the same as for the other contents of the yard and varies from 1% to as high as 5%, depending entirely on the local hazards charged for, such as untidy conditions, unsafe methods of heating the shop, exposure to adjacent greater hazards, etc. This form may, if desired, be written at a less term than one year, the owner paying the customary short rate for the time his boat is covered.

Under this form the owner should be careful to see his policy covers not only his boat, but her equipment and stores, and should part of such equipment be stored in another location, that the policy so specifies. He should also be careful to see that the amount of insurance is ample, as in many locations the Co-Insurance clause is contained in the policy. The usual Co-Insurance clause is 80%, which means that the owner agrees to carry insurance to at least 80% of the value of his boat and her equipment. In case a loss occurs and he has not placed at least 80% insurance, he will be considered a Co-Insurer and have to stand part of the loss himself. The policy should also contain the usual clause insuring against loss or damage by lightning, which is done without additional charge. If the boat is a motor boat or auxiliary, the owner should either drain off the tank when laying up for the winter or have permission endorsed in the policy allowing storage of gasoline. Most yards, in fact, compel the owner to do this.

The second and broader form of fire insurance is a Floater policy, which covers the yacht not only while laid up, but also while navigating. Under this form the yacht is confined to certain waters, which may, however, be extended if required. The same caution should be exercised as to the description of the boat and her equipment and to the amount of insurance carried as in the first policy described. The rates for this form of insurance run from $1.80 per hundred on values of $5,000 and over to as high as 4½% on values of $500, and vary for Northern and Southern waters.

The next broader form of coverage is called Port Risk insurance and is written on the Marine form, which protects the owner against the same hazards as will be described under that form. This policy, however, warrants that the yacht shall be laid up and out of commission at some specified place. The rates for this form are made by the Underwriters in individual cases, and take into consideration the rate at the yard (if so confined) and the other hazards from which a loss might occur.

We now come to the so-called full Marine form. In considering this coverage the owner should bear in mind that the policy intends to protect him against some unusual occurrence, and while the wording specifies the perils insured against as of the seas, assailing thieves, fire, collision, grounding, stranding, sinking, jettison, salvage, and general average charges and all other similar marine perils, the loss must be of an unusual nature to present a claim to the Underwriters.

The policies written on boats valued at $5,000 or less are somewhat more restricted as to their coverage than upon those valued at over $5,000, although in a general way the protection is the same. The rates vary from 2½% to 10% and are based on the value, age, condition, construction, builder, waters to be navigated, etc. Both forms contain an average clause not less than $25 and seldom more than $100. This clause means that the Underwriters do not pay claims unless amounting to the average clause in the policy, but pay in full if they do amount to the same. Occasionally the average is changed to a deductible average and the amount so stated is deducted in settlement, but the owner should not accept such a policy, as it really means he is paying a higher rate for his insurance.

Some of the important differences on boats insured for less than $5,000 are as follows: The damage to awnings is excluded; any loss paid reduces the liability under the policy to the extent of the amount of the same until it is made good by additional insurance, and an additional premium paid therefor. The amount of coverage on a tender is limited and the said tender is not covered while in tow, or while not used directly in connection with the yacht, except as to fire coverage while laid up ashore during the winter. It is also usually warranted that the yacht will be laid up and out of commission in permanent winter quarters ashore from November 1st to May 1st. This period may be extended at an additional premium, or reduced, in which case the policy will be written at a lower rate. In case of loss or accident, it is warranted that the company be notified at once, by telephone or telegraph, and that repairs will not be made without the company's authority. It is warranted also that the yacht will not be used for hire or charter, unless endorsement is made and approved by the Underwriters.

Yacht Marine policies contain a stipulation that the yacht be confined to certain waters. On the North Atlantic Coast this is usually between Eastport, Maine, and Norfolk, Virginia. These limits may be extended by arrangement with the underwriters upon the payment of an additional premium. Where an owner, for instance, intends to make a trip to Florida, he should extend his limits before going, otherwise he would be without insurance until the yacht returns to Norfolk, Virginia.

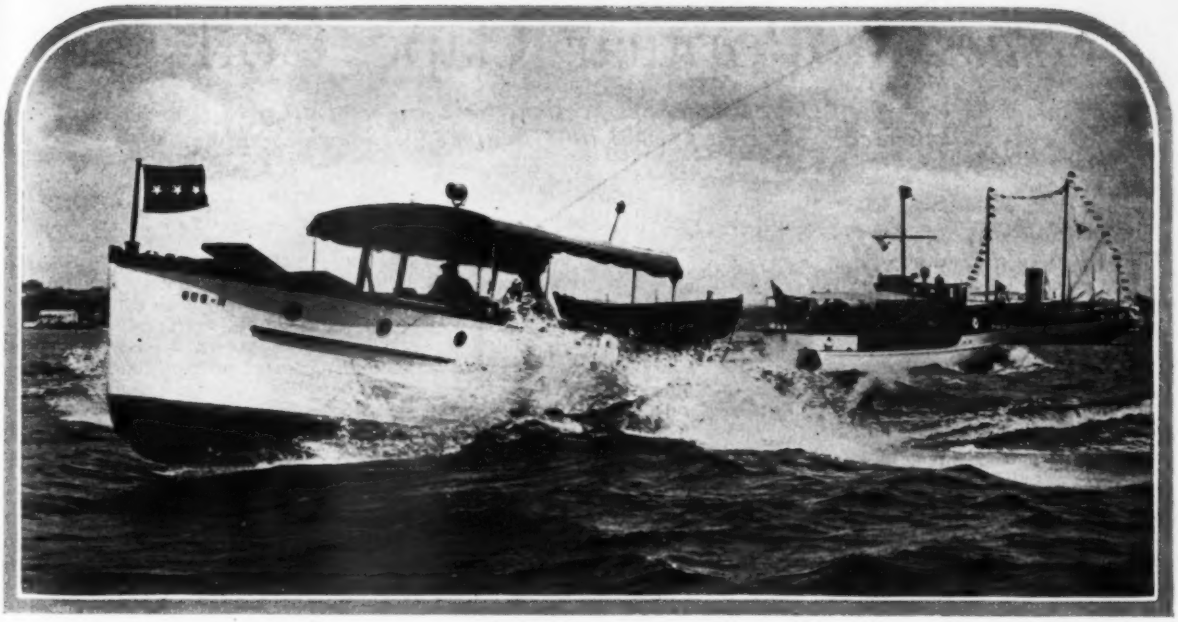
The equipment is also covered against fire while stored separately ashore, usually in the amount of 10 to 15% of the total value, which ceases to apply on the yacht itself.

Should the yacht come into collision with another ship or vessel, and the owner become liable to pay for such

(*Continued on page* 112)

Does *Your* Broker Protect *Your* Interests?

WE are glad to publish in MoToR BoatinG *this article on the subject of motor boat insurance. We believe it to be the first authoritative story on this subject which has ever been printed. Our readers are particularly fortunate in having one who has made a study of marine insurance problems for twenty-seven years present the real facts to them. Mr. Tucker has been interested in yachting for thirty-three years and as Chairman of the Regatta Committees of the Harlem Yacht Club, New Rochelle Yacht Club and New York Athletic Club he has made an enviable record. For the past five years the writer has also been Secretary of the Yachting Department of the New York Athletic Club. The points which Mr. Tucker makes about looking well into the integrity of the brokers who place the insurance are certainly well taken. Read his article and you'll think so too.*—Editor.



Harpoon, owned by Commodore M. S. Cornell, Jr., present holder of the Express Cruiser Championship Trophy

Express Cruiser Owners, *Ahoy*

An Opportunity Is Open for Competition in One of the Season's Most Attractive Races for a Famous Trophy Now Held by the Middletown Yacht Club

THE American Power Boat Association Express Cruiser Championship Race will be held on Saturday, June 30 this year under the auspices of The Middletown Yacht Club, present holders of the trophy through the efforts of Commodore M. S. Cornell, Jr., and Capt. L. M. Brooks.

Real competition is heartily desired by the present holders, and owners of express cruisers up to 65 feet in length can be assured of a sincere welcome on the part of this club. The course for the race this year will be from the Middletown Yacht Club, down the Connecticut River to Long Island Sound and then continuing east to Block Island.

The Express Cruiser Championship Trophy which will be awarded to the winner of this race was originally offered by the National Association of Engine and Boat Manufacturers and was subsequently turned over to the American Power-Boat Association. Competition for this cup began in 1906 and continued annually until 1914. There was a lapse in competition until last year when Harpoon again won the trophy. A brief account of the boats which have had this trophy in their care in previous years might prove of interest. It was won by Sheboygan in 1906, by Ballam in 1907, Eagle in 1908, Ilys in 1909, Spendthrift in 1910 and 1911, and Peter Pan, Sr., in 1912, all races up to this time having been conducted on the Hudson River. In 1913 the race was shifted to Put-In-Bay, Ohio where it was won by Barbara, while in 1914 it came back to Manhasset Bay where it was won by Flyaway II. The 1922 race on Long Island Sound was won by Harpoon.

Another view of Harpoon. Adriel Too is almost identical in appearance to Harpoon

The race for the championship of the Connecticut River (50 miles) in both cruiser and express cruiser classes, will also be held on the same date, the latter in conjunction with the first leg of the Express Cruiser Championship of America. There are many boats of both types around Long Island Sound, Newport, Shelter Island, and New York, as well as in the Chesapeake Bay section, which are eligible.

Entries should be sent to Harold A. Williams, Chairman Race Committee, or to M. S. Cornell, Jr., Commodore, both of Middletown, Conn., or to C. F. Chapman, Secretary Racing Commission, American Power Boat Association, 119 West 40th Street, New York.

Grace, a Popular Cape Cod Cat

Complete Design and Specifications for a Smart Little Boat Intended to Be Equipped With Auxiliary Outboard Engines

By Charles D. Mower

Designed Exclusively for MoToR BoatinG

THE catboat has always been a very satisfactory and popular type of small boat for day sailing and the best boats of this type are the so-called cape cats built and used in the shallow harbors on the south side of Cape Cod and in Buzzards Bay. They are used for fishing, summer and winter, in all kinds of weather, as well as for afternoon sailing and class racing by yachtsmen during the summer months and they have the well-deserved reputation of being weatherly, good sailors and easy to handle. The builders who have made these types famous are the Crosbys of Osterville, on the Cape, and C. C. Hanley whose reputation for fast cats was gained from the many good boats built at his shop at Monument Beach, Buzzards Bay. The writer believes that the Hanley boats were the best cats ever built and the design published herewith is frankly a boat of the Hanley type with a slight modification at the bow.

The typical Hanley cat was a plumb stem boat with the stem head raked slightly aft and the mast stepped right in her eyes to use a common expression.

In the design herewith the lines are carried out to give a short overhang which gives more room around the mast on deck and gives the boat more reserve buoyancy to lift her over a head sea. It also allows the opportunity for a stronger construction where the mast is stepped.

The design which Mr. Mower has prepared for you this month is of the old reliable and popular catboat type. This little boat of just over twenty feet in length is a sturdy type and much favored in certain sections of the country for its sea going ability and smart sailing. A novelty in auxiliary motive power is the provision for using two of the modern outboard motors on the stern transom. The heavy duty motors of this type available today are sufficient to provide ample power for a boat of this kind and have the particular advantage of being removable when their services are no longer required.—Editor.

The cross sections, shown in the body plan, are typical of the Hanley boats and the stern shows the powerful quarters which make these boats such able sail carriers. The hollow water lines forward are a noticeable feature and they give the boat a very fine, easy entrance and prevent pounding in rough water.

The large center board is according to the accepted catboat practice and occupies practically the middle third of the water line length, which is the customary location. The center board extends into the cockpit and is operated by a small tackle fastened to the top of the cabin trunk.

The boat has been designed with the cockpit going all the way to the stern so that outboard motors can be clamped to the transom on either side of the rudder to serve as auxiliary power, instead of having an engine installed under a hatch in the cockpit, as was frequently done, before the outboard motor reached its present development.

The large cockpit, and the fact that these boats sail at a small angle of keel, make them very comfortable for day sailing. The cabin is fitted with two transom seats, which can be made up as berths, and there is room for a toilet fixture, if one is required, and a space forward for a small stove and a couple of lockers. The cabin headroom is 3 feet 8 inches which allows sitting-up headroom on the seats.

While the cabin accommodations are rather limited, they make cruising possible and many of the men who own large yachts today started cruising as boys in boats much less comfortable than this one. The cabin also serves as a shelter from the rain, when used for day sailing and gives a place to stow equipment under lock and key when the boat is left at her moorings.

The cockpit floor is above the water line and is self-bailing so that the boat does not have to be pumped out after every heavy rain. The scuppers must be plugged when under sail to prevent the water from backing up into the cockpit when the boat keels over.

There is an increasing demand for sail craft of all kinds equipped with auxiliary power and it is believed the cat boat design will be of great interest to many yachtsmen who want a maximum amount of comfort in a limited over-all length and especially to those who must use a boat where shallow waters make boats of deeper draft impossible.

The plans and specifications are the same as are ordinarily furnished when a special design is ordered from a naval architect and are all that should be required by any boat builder to work from. The construction is simple so that any amateur who has had some experience in boat building should be able to work from the published plans without any great difficulty, and turn out a very useful and serviceable little cruiser that will give just as much pleasure as a boat twice her size.

Arrangements have been made whereby blue prints of these drawings, to a scale of one inch to the foot can be secured at moderate cost by addressing F. W. Horenburger, 4263 Byron Avenue, Bronx, N. Y.

General Specifications

The general dimensions of this boat will be: Length overall 20 feet 9 inches, length water line 19 feet 6 inches, extreme breadth 9 feet 3 inches, extreme draft 2 feet 0 inches.

Material and workmanship: In carrying out these specifications it is understood that all material shall be of the best quality and the workmanship first class in every respect. All woods shall be sound, well seasoned and of a kind and quality suitable for the use intended. Any defective workmanship or material will be rejected at whatever stage of the work it may be discovered and any such rejected workmanship or material shall be replaced and made good to the complete satisfaction of the owner or his representative.

Inspection: The work of construction shall at all reasonable times, be open to the inspection of the owner or his representative and the builder shall allow every opportunity and facility for such inspection of the work as may be required. The owner shall have the right to make changes in the plans or specifications provided the extra cost that may be incurred by the change, or any reduction in cost, shall be agreed upon in writing before any changes shall be made in the work affected.

Keel: White oak, sided 6 inches and moulded as per plans. To be in one length and tapered fore and aft as per offsets for rabbet line. Size pieces 1½ by 3 inches to be fitted to take heels of frames and to form back rabbet for planking. Dead wood and stem post to be of oak as per plans.

Stem: White oak, natural crook, sided 4 inches and moulded as per plans. Rabbeted to take planking and securely bolted to keel. Galvanized wrought iron stem band with eye in head for fore stay turnbuckle to be fitted as shown on plans.

Stern Transom: This is to be of oak, 1⅛ inches thick, fitted to stern post with a 3-inch sided oak knee. To be thoroughly edge bolted and fitted with oak stiffeners on inside.

Frames: To be of white oak, 1½ by 4½ inches spaced 6 inches center to center, steam bent to shape. Heels of frames notched into side timber of keel and well fastened. Oak floor frame sided 1½ inches and moulded as per plans fitted to every frame.

Clamp: This is to be of yellow pine, 2 by 2 inches in single lengths, tapered at ends. To be fitted with knees to transom and natural crook breast hook forward. To be riveted to heads of frames or fastened with galvanized screw bolts, one to every frame staggered.

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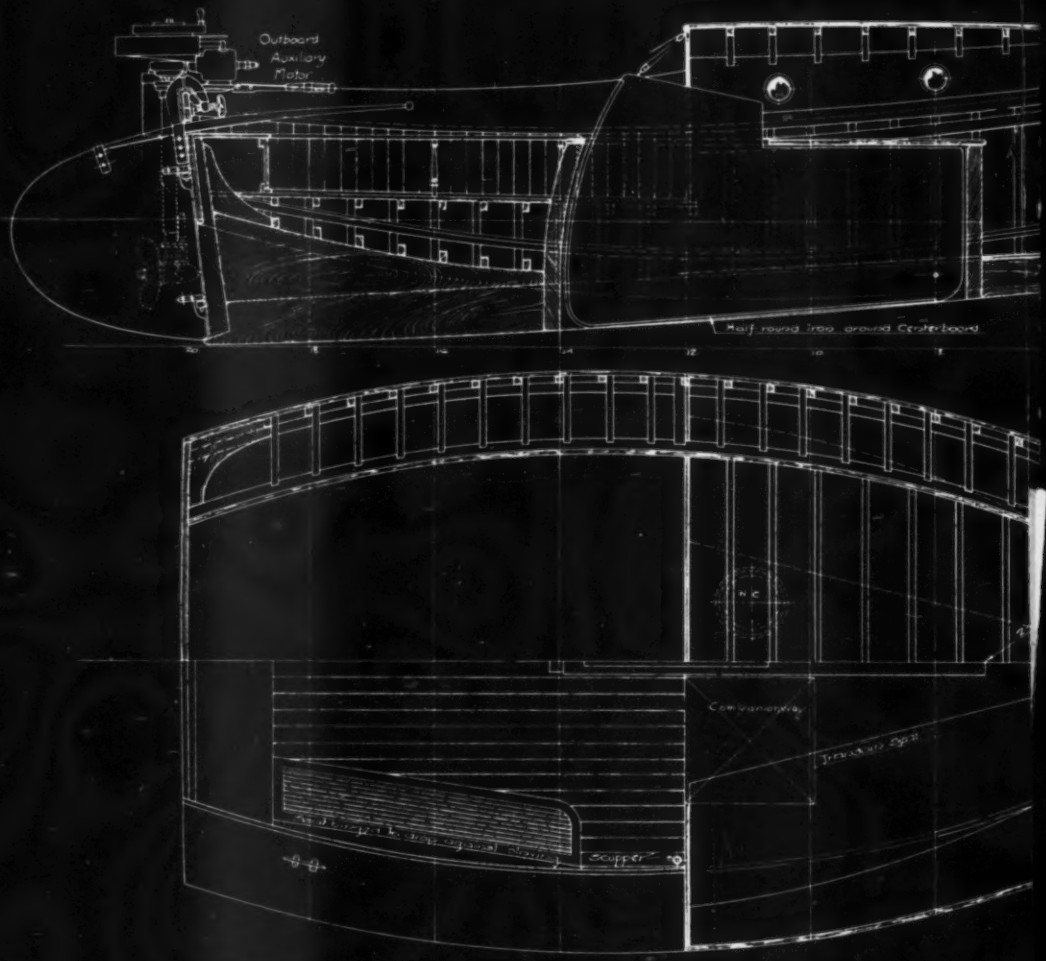

MOTOR BOAT
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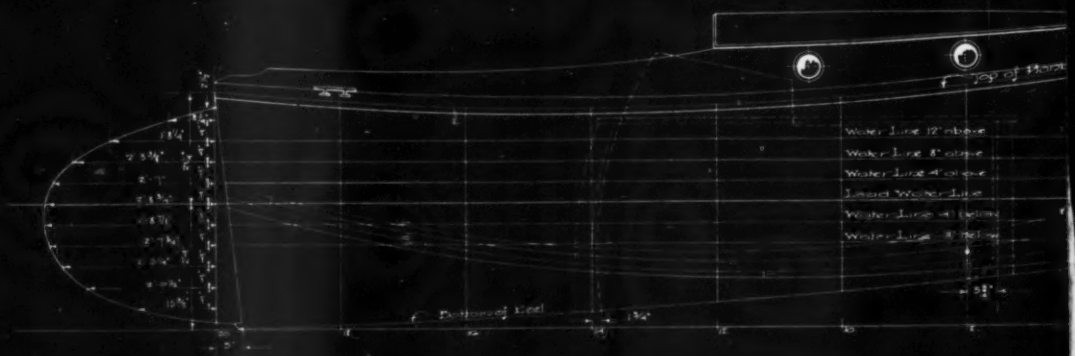
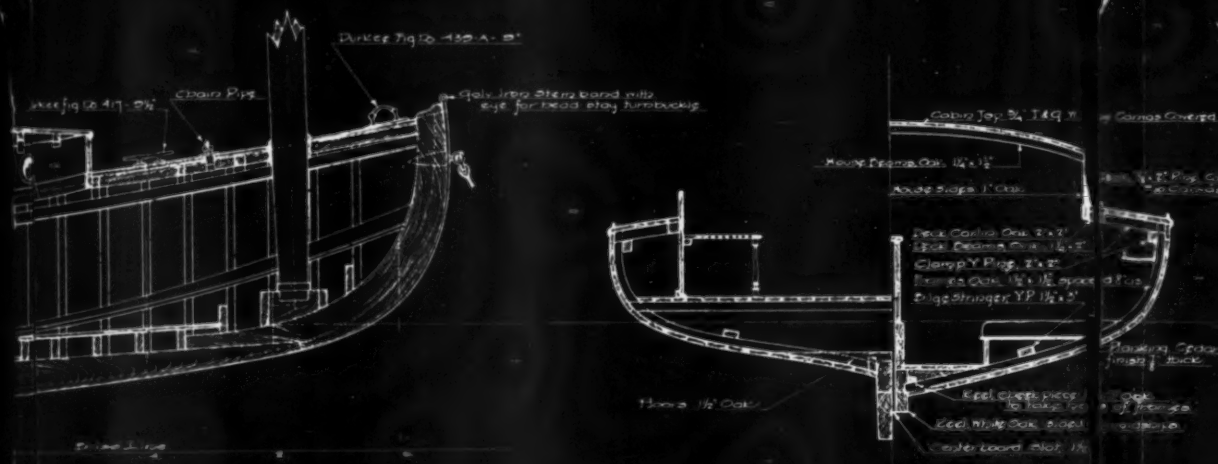
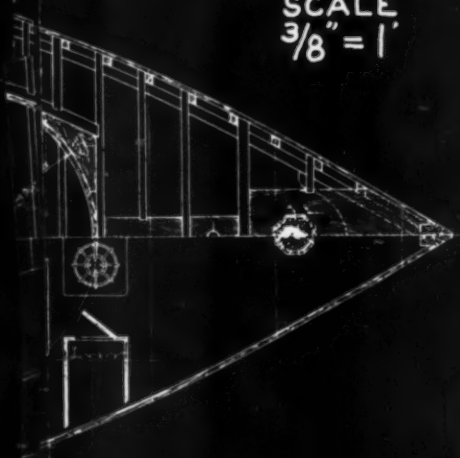
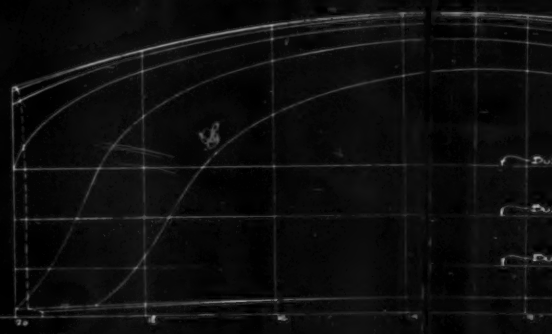
COMPLETE HOW TO BUILD PLANS









MOTOR BOATING

119 WEST 40th STREET
NEW YORK, N. Y.

DIMENSIONS

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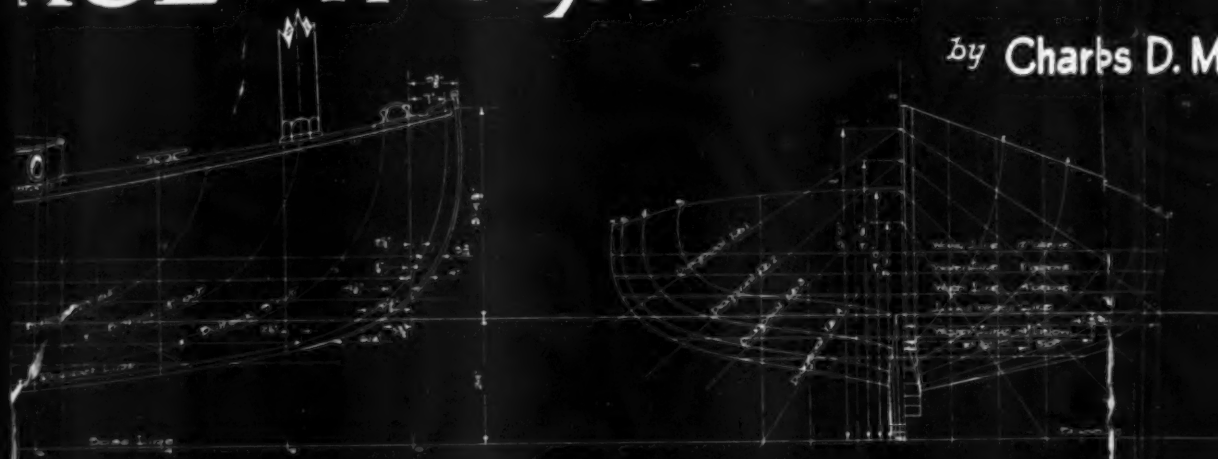
ING'S BUILD A BOAT S
ACE - *A Cape Cod Cat*

by Charles D. M



LENGTH OVER ALL 20'-9"
" ON WATER LINE 19'-6"
BEAM ..... 9'-3"
DRAFT ..... 2'-0"

T Series

s D. Mower, N.A.

Bilge Stringers: To be of yellow pine 1½ by 3 inches, in single lengths each side, tapered at ends. Fastened with rivets or screw bolts spaced one to every frame staggered.

Centerboard: Lower legs of center board trunk to be oak 1¾ inches thick, fitted with white pine tongue to keel and upper siding. To be well bolted to keel and riveted to headledges. Upper siding 1-inch yellow pine fitted with tongue and groove joints set in white lead. Headledges oak, 1½ by 3 inches to extend through keel. Neat mahogany cap fitted on top of trunk. Centerboard to be of oak, 1¼ inches thick, thoroughly edge bolted, to be fitted with 1-inch wide half round galvanized iron on lower and aft edges as shown on plan, in one piece bent around lower corner and fastened with heavy galvanized screws closely spaced. Board to be hung on ¾-inch galvanized bolt through keel with washer and gasket on each end. Metal bushing to be fitted inboard to take wear. Board to be weighted with lead cast in flush sufficient to overcome flotation. Rope pennant fitted at aft end for lowering with cleat on side of centerboard trunk.

Planking: To be of white cedar to finish ⅞ inch thick, in narrow strakes and as long lengths as possible. All butts to be made on oak butt block between frames. To be fastened with galvanized boat nails, heads countersunk and filled with white lead putty. Seams caulked with cotton, payed and filled with white lead putty. Planking to be carefully planed, and sandpapered until perfectly smooth and fair. Face of stem must finish fair with planking.

Mast Step: To be an oak block with grain running athwartship fitted between two heavy oak floors and very securely fastened to keel and floors. To be notched down over keel and fitted to frames and planking.

Deck Beams: to be of oak, 1¼ by 2 inches, sawn to crown of ½ inch to the foot, spaced 8 inches to center as shown on construction plan. To have one rivet or screw bolt through the clamp at each end and one fastening through head of frame. Carline 2 by 2 inches to take coaming. Strong beams to be 2 by 2 inches at forward end of cabin trunk and at aft end of mast partner. Oak partner pieces as per plan.

Desk: Deck to be of white pine or western spruce in planks ⅞ by 2 inches, laid parallel to the side of the boat. To be fastened with galvanized nails to beams and edge nailed with 3-inch galvanized wire nails between beams. Plank sheer to be of oak, ⅞ by 3 inches sprung with side of boat and well fastened to beams and to edge of sheer strake. Deck to be planed smooth and covered with 10 oz. canvas in one piece laid in thick white lead paint, thoroughly stretched, and fastened with copper tacks. Canvas to be turned up in rabbet on outside of house coaming and covered with moulding strip. Canvas turned down on outside of sheer strake and covered with half oval mahogany sheer moulding, slightly hollowed on back and painted on back before being put in place.

Cabin Trunk: Coaming oak 1 inch thick, steam bent to shape. Height as per plans. Fastened to inside face of deck carline with brass screws closely spaced. Beams to be oak, sawn to crown of 1 inch to the foot, sided 1¼ inches and moulded 1½ inches, spaced 9 inches center as per plan. House top ¾ inches tongue and groove white pine in narrow planks, beaded on under side. Planed smooth and covered with canvas same as main deck. Companion slide and doors at aft end of mahogany. Doors to have slat panel in upper part for ventilation, hung on loose pin brass butts, fitted with suitable drop ring door knobs and lock. Six 4-inch round port lights, brass, to open, in coaming as shown.

Cockpit: Coaming same as cabin trunk coaming. Staving tongue and groove mahogany ½ inch thick with V bead on face side, set in rabbeted sill and made as nearly watertight as possible. Cockpit floor ¾-inch tongue and groove white pine covered with canvas same as main deck. Lead pipe scuppers on either side at forward end.

Scuppers fitted with screw plates flush with cockpit floor. Seat with locker under at aft end and slatted seats hinged on either side as shown on plans. Rowlocks fitted to cockpit coaming on each side.

Rudder: Blade of oak, thoroughly edge bolted and tapered as thin as possible at aft edge. Hung with rudder braces similar to Durkee fig. 475 for upper and fig. 479 for lower fitting. Rudder blade 2 inches thick. Tiller to be selected oak or hickory, 2 by 2 inches at rudder head and tapered as shown with neat ball worked on inboard end. Tiller to have galvanized iron strap 2 inches side and ¼ inch thick and 3 feet long screwed to under side as strengthener. Galvanized iron straps fitted to rudder to receive outboard end of tiller, pin fitted to allow unshipping tiller.

Chock Rail: Neat chock rail of mahogany about ¾ by ¾ inches set on outboard edge of deck from bow to stern. Chock windened at bow as necessary to take anchor chock. Small scuppers cut through chock as necessary to allow water to run off.

Cabin: Arranged as per plan with low transom seat on each side with traps in top to locker under. Khaki covered cushions filled with kapoc to be fitted to cabin transoms. Low platform for stove at forward end with lockers on either side for storage. Table leaves hinged on both sides of centerboard trunk. Cabin floor fitted with hatches to give access to entire bilge. Inside of coaming to be varnished, all other wood work painted three coats, color as directed by owner. Chain locker fitted forward.

Finishing: Outside of hull to be planed and sandpapered perfectly smooth, primed and given at least three coats of white lead paint on topsides and two coats of approved anti-fouling paint on underbody. Painted waterline to be as shown on sail plan, not at designed waterline. Decks to be given three coats of lead paint of approved color. Side of cabin trunk, sheer mouldings, cockpit seats and staving, tiller, companion slide and doors, chock rail, spars, etc., to be given at least three coats of best spar varnish. Name painted on stern in plain 2-inch letters.

Ballast: Builder to furnish 1,000 lbs. of lead ballast in small pigs and stow same under cockpit floor at aft end of centerboard trunk.

Spars: Mast, boom and gaff to be solid spruce spars. Mast to be a natural growth stick, sound and free from large knots. Gooseneck to be similar to Durkee fig. 295, 7 inches inside diameter. Boom band for mainsheet block similar to Durkee fig. 295-A. Durkee fig. 415 shoulder cleats fitted for head stay and throat halyard pennant. Eyebolts fitted for peak halyard and topping lift blocks. Headstay to be fitted with a 9-inch galvanized iron strut spreader, not to swing, and with ⅜-inch galvanized pipe turnbuckle at lower end. Upper end to have eye splice around masthead. Blocks to be Merriman make, ash shells with patent roller bushed composition sheaves, all to be 4 inches size. All to be fitted with shackles with beckets where necessary, except gaff bridle block for peak halyard. Builder to furnish oak mast hoops. Foot of sail to have wire jack rope through lacing eyes in boom. Head of sail to lace around gaff. Gaff to be fitted with oak jaws covered with rawhide on inside, and brass tongue 12 inches long for throat halyard block. Mainsheet traveller 3 feet long ⅝ inches diameter bolted to inside face of stern transom. All running rigging to be best quality manila yacht rope.

Sail: Builder to furnish mainsail, mainsail cover, and sail stops to be made of 7 oz. Lowell duck. Sailmaker to be approved by owner before sails are ordered.

Fittings, etc.: Builder to furnish all necessary hardware and fittings such as cleats, chocks, deck plates, chain pipe, etc. One 35 lbs. galvanized anchor with 35 fathoms of ¾-inch diameter manila cable. Four cork filled life jackets, 4-inch liquid compass fog horn, lead and line, boat hook, bucket, lantern, 3 gallon water jug, 4 canvas fenders, one 15-foot car boom crutch, etc. Mooring eye with flanged plate on either side of stem to be fitted and very securely fastened in place. Mooring hook like Durkee fig. 349, ½ inch size, fitted with thimble for manila rope to be furnished by builder.

General: It is understood that the boat is to be built and finished in a first class manner in every respect and satisfactory to the owner. It is intended that the plans and specifications shall correspond, each with the other, but in case any work is shown or called for in one and not in the other, or vice versa, it shall be considered as being contained in both and shall be done by the builder without any extra charge. It is also understood that the builder shall make no charge for extra work unless a written order describing such work shall have been given by the owner.

Ruth, a 33-Foot Hacker Cruiser Next Month

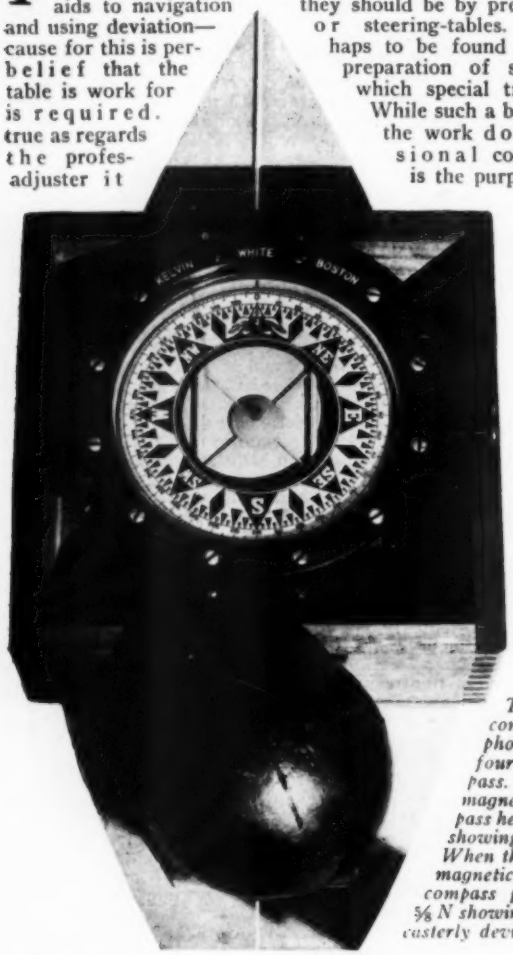
For the June issue of MoToR BoatinG *John L. Hacker has prepared one of his famous designs and we can promise that this boat will meet with immediate approval. It is to be a 33-foot cruiser designed primarily for fishing purposes. Good accommodations have been included for general cruising and speed has not been overlooked. The motor which has been provided is the model 35 Kermath engine which will drive this boat close to twelve miles per hour. Following the custom established some time ago, this design will appear in the popular blue print supplement form which has proven to be one of the most attractive editorial features of* MoToR BoatinG.

Solving *the* Secrets *of the* Compass

The Ever Present Error in the Compass Heading Must Be Known and Determined so That Correct Courses Can Be Sailed

By H. R. Stiles

IT has been my experience that surprisingly few owners of small boats make their compasses the dependable aids to navigation they should be by preparing and using deviation—or steering-tables. The cause for this is perhaps to be found in the belief that the preparation of such a table is work for which special training is required. While such a belief is true as regards the work done by the professional compass-adjuster it is the purpose of this article to describe a method by which anyone, without special knowledge or apparatus, with no labor other than accurate course-plotting, compass-reading and steering and without devoting much special time to the work, may prepare a reliable table.



Steering Card

Magnetic Course	Compass Course	Deviation
N	N	0
NNE	NxE¾E	¾E
NE	NE¾N	⅝E
ENE	NExE¼E	⅝E
E	E	0
ESE	ESE¾E	¾E
SE	SE½E	½E
SSE	SSE½S	½E
S	S	0
SSW	SxW¾W	¼W
SW	SW½S	½W
WSW	SWxW¾W	¾W
W	W½N	½W
WNW	NWxW¼W	¾W
NW	NW½N	½W
NNW	NNW¼N	¾W

Steering card made from data observed while photographs shown were being made. The deviation for every two points around the compass is noted

To illustrate the deviation of a compass on various headings photographs were made every four points around the compass. With the boat heading magnetic north the compass headed the same way showing no deviation. When the boat pointed magnetic northeast the compass pointed NE ⅝ N showing ⅝ point easterly deviation

While it is quite possible to make and use a steering-table by the method to be described—running known courses—without any technical knowledge of compass errors, the work will be much more interesting and be undertaken much more intelligently if the meaning of a few terms commonly used in connection with it are understood.

1. True North. The direction toward the geographical north pole of the earth.

2. Magnetic North. The direction to which the north end of a magnetic needle points. It coincides with true north only at certain points on the earth's surface because the true north pole and the magnetic north pole are not coincident.

3. Variation. Since the true and magnetic north direction rarely coincide, the magnetic needle will usually make an angle with a line drawn from the compass center to true north. This angle is the variation of the compass. It varies in amount at different points on the surface of the earth.

4. Deviation. The deflection of the magnetic needle caused by magnetic material in the boat itself. It is present in practically every vessel and varies in amount for each different direction in which the boat may be heading. It is this error we are to consider.

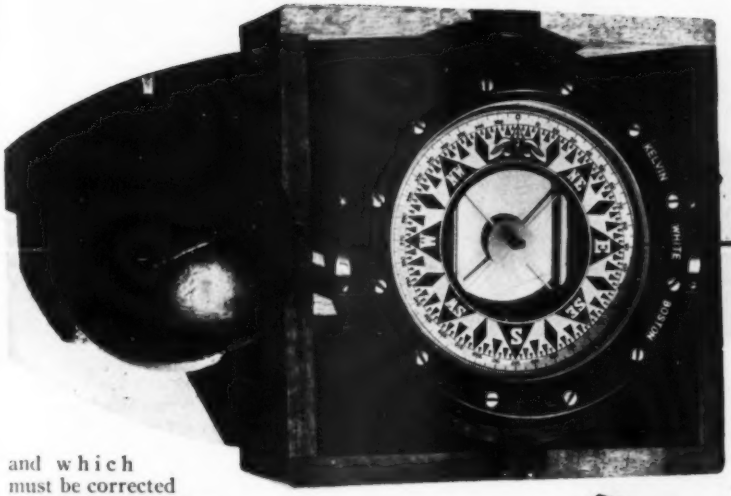
Deviation is named; easterly when the north end of the needle is swung to the right or to the east of north; westerly when the north end of the needle is swung to the left or to the west of north.

5. True Course. A course which has been corrected for both variation and deviation and which refers to the geographical north pole.

6. Magnetic Course. A course which has been corrected for variation only and which refers to the magnetic north pole. It is the course your boat would run if your compass were free from deviation. The inner compass-roses on charts are graduated with reference to the magnetic north, hence courses plotted from such roses are magnetic courses.

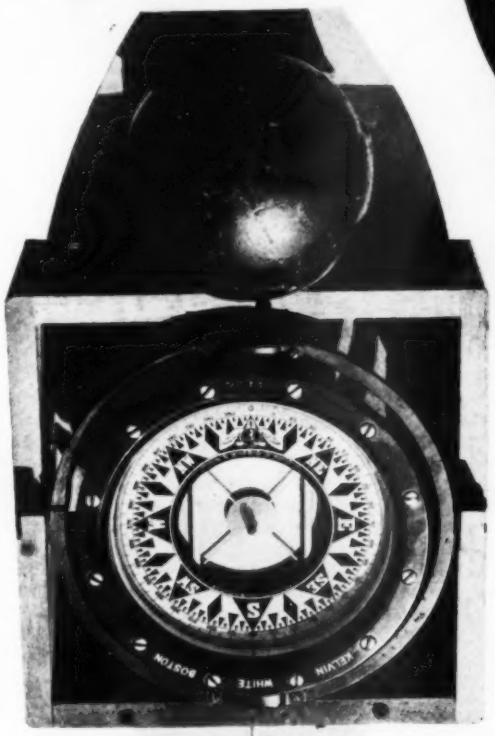
7. Compass Course. The course you would run by the compass in your own boat if you had paid no attention to correcting its error. It must be corrected for deviation to make it a magnetic course and for deviation and variation to make it a true course.

The error—deviation—to which your compass is subject



and which must be corrected to make your compass correct, is caused by magnetic material in the boat itself acting to deflect the compass-needle from the magnetic pole toward which it should point. This deviation will not be constant if the magnetic forces in the boat are changing in direction and amount, and the following conditions must be complied with while the compass is in use if the results gotten in determining its error are to be of any value whatever; first, all fixed magnetic material near enough the location of the compass to be kept exactly affect it must be kept where it was second, no other magnetic material must be brought or kept was determined; I have known a tin fog-horn laid on a shelf separated from the compass by the thickness of the cabin-bulkhead to affect the compass seriously. An iron clutch-lever will make a difference in the deviation when its position is changed from neutral to forward or reverse, if it is near enough the compass. In such a case deviation should be determined with the lever in the ahead position. Iron directly under the compass is especially mischievous. A steel key in the brass pinion of a steering-gear located under the compass produced a local attraction which was very puzzling, for it varied as the key changed position in steering. An ignition-coil will freeze a compass-needle if it is near enough to it, and it need not be so very near either. Wires carrying a current will affect the needle unless their polarity is neutralized by twisting them around each other.

If the compass is not fixed in its place all the time but is brought out only when needed, care must be taken to see first, that a place be provided for it in which it can be located so that its north and south line coincides with or is parallel to the keel-line of the boat, and second, that it be accurately located in the place thus provided for it before the work of determining deviation is begun, and whenever it is to be used.



The globe in the pictures represents the center of magnetic attraction on a boat. In swinging the ship it affects the compass in varying amounts on different courses. On an easterly course no deviation. On SE course ½ point easterly, and on S course again no deviation

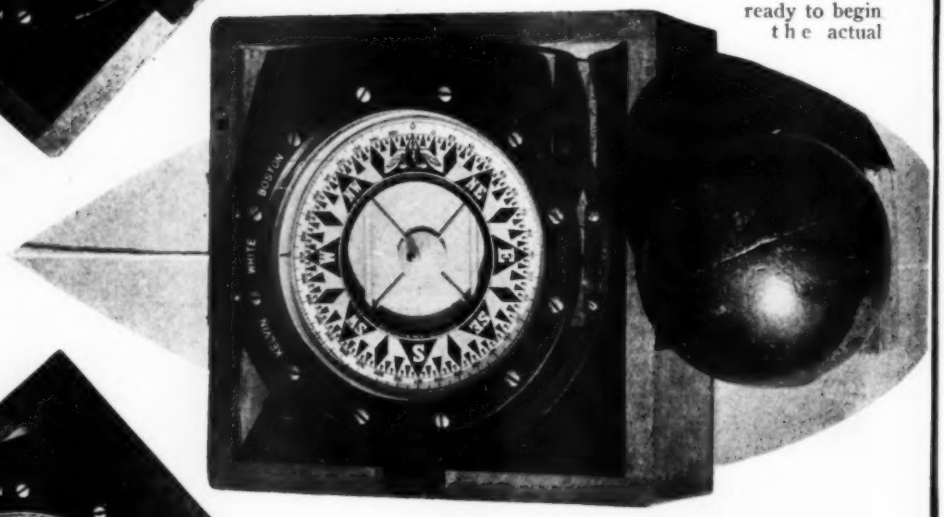
The principle on which the work is based is as follows. As has already been said, the compass-rose on most charts used by the small-boat owner is graduated with reference to magnetic north and true north. Readings should be made from the inner graduations and the course between two given points on a chart with the compass-rose graduated in this way is a magnetic course. If now you run your boat between the two points for which you have gotten a course on such a chart and when dead on this course read your own compass, you will have the course you must run by your compass to make the magnetic course between the two points, and the difference between the course you took from the chart-rose—the magnetic course—and the course as shown by your own compass—your compass course—will be the error—deviation—of your compass for the course you have

run. You have only to run sufficient courses to have the data for a complete table of compass-courses corresponding to magnetic courses, and for the kind and amount of deviation on each course.

In running courses use, if you can, fixed objects on the chart—spindles, lights, headlands, bridge piers and abutments, docks, etc.,—rather than buoys, though any error introduced by using the larger buoys—cans, nuns, etc.,—is practically negligible on short courses and there is a positive advantage in utilizing buoys which mark courses you are in the habit of running, as they are the objects you will be searching for when your deviation-table will be most needed. Select courses which will distribute your runs all around the compass and as close together as possible on the compass-card, thus making your table as complete as possible. It will surprise you to find how many eligible courses for runs are to be found in limited areas on your charts. You can do much toward getting the data you need by making every run you take in your boat a run for deviation when it is between two points on the chart. It is practically no trouble at all to do this and it is the best possible way to get data for a table which while not perhaps complete, is fitted to your special needs, as it covers courses you are actually using.

Line in the courses you select for your runs on the chart and note the magnetic course as gotten from the compass-rose on each line. Provide a small notebook and enter in it each course to be run, marking each Magnetic leaving room for three or four compass-readings following each magnetic course. These readings should be marked Compass. Have someone to help you if possible by making notes for you during the runs. The handling of the boat and reading the compass will keep you pretty well occupied.

You are now ready to begin the actual work of getting your data provided—and this is of the utmost importance—your compass is in its permanent position, is accurately located as to the midship-line of the boat, that all magnetic material near it is in the exact position it will occupy when the compass is to be used and that no magnetic material which is not to remain permanently in its position when the compass is in use is near the compass.



In these illustrations on westerly headings the errors at the intercardinal points are ½ point west on both SW and NW courses. On a straight westerly course the deviation is only about ¼ point west

Running the courses. Get your boat absolutely on the course; that is, with one mark dead over the center of the stern and the other dead ahead. Hold her there long enough for the compass to settle, then note the compass-reading or call it to your assistant and have him call it back to you as he notes it. This reading will be the compass-course for that run. Swing the boat a little off the course, come on it again and make and note another reading. If there is much discrepancy make a third. In using your data average the two closest readings and use the result as the compass-course, rejecting the third reading altogether. Then run the course in the other direction and make the proper notes. It does not follow that be-

(*Continued on page* 118)

SMALL MOTOR BOATS

Their Care, Construction, and Equipment

A Monthly Prize Contest Conducted by Motor Boatmen

Questions Submitted for the July Prize Contest

1. Describe how to permanently repair a broken or defective portion of a boat's hull plank.
(Submitted by H. H. P., Oakland, Calif.)

2. Describe and illustrate a safe and convenient method of storing extra gasoline aboard a cruiser, for a long race or cruise, giving special attention to economy of space.
(Submitted by H. A. M., Philadelphia, Pa.)

Construction of a Neat Boarding Ladder

An Essential to Comfortable Boarding of a Larger Boat Is a Properly Built Ladder Which Must Be Strong and Secure

Answers to the Following Questions Published in the March Issue

"Give drawings showing the construction of a neat and simple boarding ladder which the boatman could build"

Boarding Ladder Design Is Important

(The Prize-Winning Answer)

INVARIABLY upon reading the questions for the Prize Contest the natural impulse is to ask one's self in what new and novel way can the particular question be answered. Quite often the questions are themselves novel and call for answers involving original ideas. But now and then a question is asked that deals with a most commonplace, but very essential piece of equipment where an endeavor to advance an original idea would necessitate a complete disregard for methods developed, or involved, through long years of service.

Thus in the subject question we need but look to the best of current practice for our answer. A boarding ladder must be made right or it at once becomes a danger and a nuisance. Fortunately, the task of correctly building a boarding ladder is far from being a difficult one.

Before commencing with the actual work, determine just where it is to be placed. While tradition says the starboard quarter is the proper location, the general lay-out of the boat is the deciding factor. The next step is to take a thin board, or large piece of cardboard and cut it to fit the side of the hull where the ladder is to hang. If there is much fore-and-aft curvature to the hull at that point it will be necessary to make two patterns, or templets, one for each side of the ladder. Then holding the templet in place drop a plumb line from the sheerstrake or moulding and mark its path down the templet (see Fig. 1). This line will guide you in getting the steps level. The rest is purely a matter of handling a few simple tools. It is believed the sketches are amply clear to show the construction and further comment on that score is unnecessary. It will be noticed, however, that the steps are mortised, or dovetailed, into both sides and it advisable to use a thin rod, riveted over washers, just under the steps, as shown in Fig. 2.

But more important than construction is the design of the ladder. The ladder should hang so as to lie against the hull whether it has flare or tumble-home. This means that the center of gravity of the ladder must be outboard of the point of support. Where there is considerable flare to the hull it means the ladder must be quite deep, as in Fig. 3-A. Such ladders are both heavy and difficult of stowage when not in use. When the side is vertical or tumbled-home, as in Fig. 3-B, the ladder hangs well and is capable of better proportions. In all cases the ladder should reach to or slightly below the water as the dinghy has an unhappy faculty of coming up under and unshipping a short ladder.

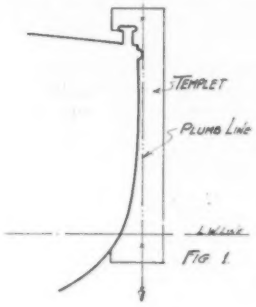


FIG. 1

FIG. 2.

FIG. 4

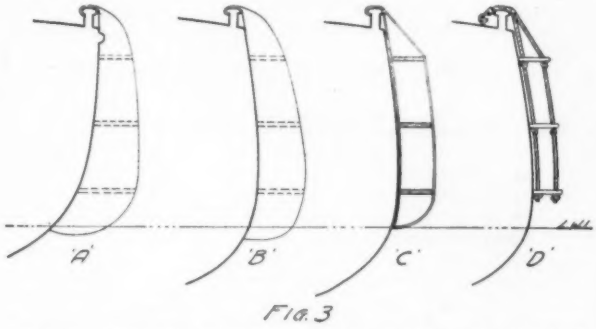


FIG. 3

P. L. R. shows how to fashion the side members to fit the boat

Rules for the Prize Contest

ANSWERS to the above questions for the July issue, addressed to the editor of MoToR BoatinG, 119 West 40th St., New York, must be (a) in our hands on or before May 25, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses.

The name will be withheld and initials used.

QUESTIONS for the next contest must reach us on or before May 25. The editor reserves the right to make such changes and suggestions in the accepted answers as he may deem necessary.

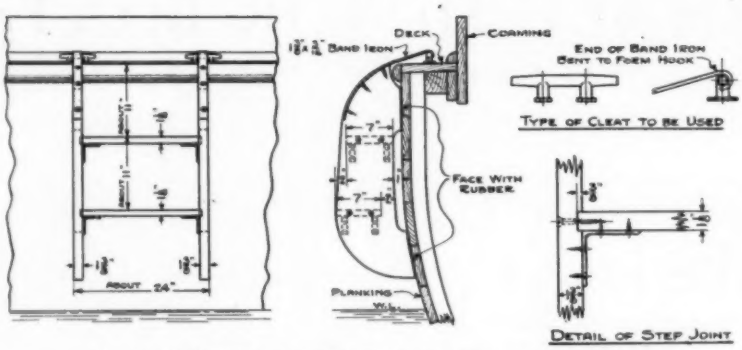
The prizes are: For each of the best answers to the questions above, any article or articles sold by an advertiser advertising in the current issue of MoToR BoatinG of which the advertised price does not exceed $25, or a credit of $25 on any article which sells for more than that amount. There are two prizes—one for each question—but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates.

For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser advertising in this issue of MoToR BoatinG of which the advertised price does not exceed $5, or a credit of $5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

The matter of hooks is very important. It is the hooks' duty to stay on the ladder and keep the ladder on the boat. Two-arm hooks (Fig. 4-A) are desirable and may be procured at any marine hardware store. These will not pull off as will the hook illustrated in Fig. 4-B. A simple and satisfactory hook made of strap iron twisted is shown in Fig. 4-C. The three foregoing hook over the rail cap. In Fig. 4-D is shown a hook that slips into two eye bolts, placed in the deck. This arrangement prevents the ladder from unshipping.



H. A. M. designed a simple ladder to hook on to deck cleats

Fig. 3-C shows a ladder with a skeleton frame of strap iron while Fig. 3-D shows a rope ladder which is simple but not so good. The regulation ladder made of hardwood is to be recommended. It is well to pad the ladder where it strikes the hull to prevent its marking the sides.

P. L. R., New Rochelle, N. Y.

Simplicity Is an Advantage

THE design of the boarding ladder shown in the accompanying drawing will be found adaptable to most average size cruisers. The dimensions given are general and will probably have to be varied slightly to suit the individual boat, likewise the number of steps will be determined by the freeboard.

White oak is about the best material to use for this work. The treads are recessed into the side pieces and secured with screws as shown. Two angle braces, size 3x3 inches or 4x4 inches fastened to the underside of the end of each step will make the construction rigid and prevent the joints from becoming loose. It will also be easier to ascend and descend if the lower step projects beyond the step above about two inches as shown.

The whole arrangement is hooked by means of the band iron straps on to two cleats screwed to the deck. In purchasing the cleats, be sure that the space between the lugs will accommodate the width of the band iron. These steps are very quickly hooked on and off, and since they must be swung outward from the bottom to disengage the hooks, they cannot become accidentally unshipped by hitting a tender or wharf.

Face the surface of the uprights with a piece of thin rubber, where they come in contact with the hull to avoid injury to the planking. Rubber stair treads tacked to the steps will assure a good footing. If the steps are finished in the natural wood or stained and varnished to match the exterior bright work, a very desirable appearance is obtained, more so than if painted. If possible, have all metal parts galvanized or made of brass.

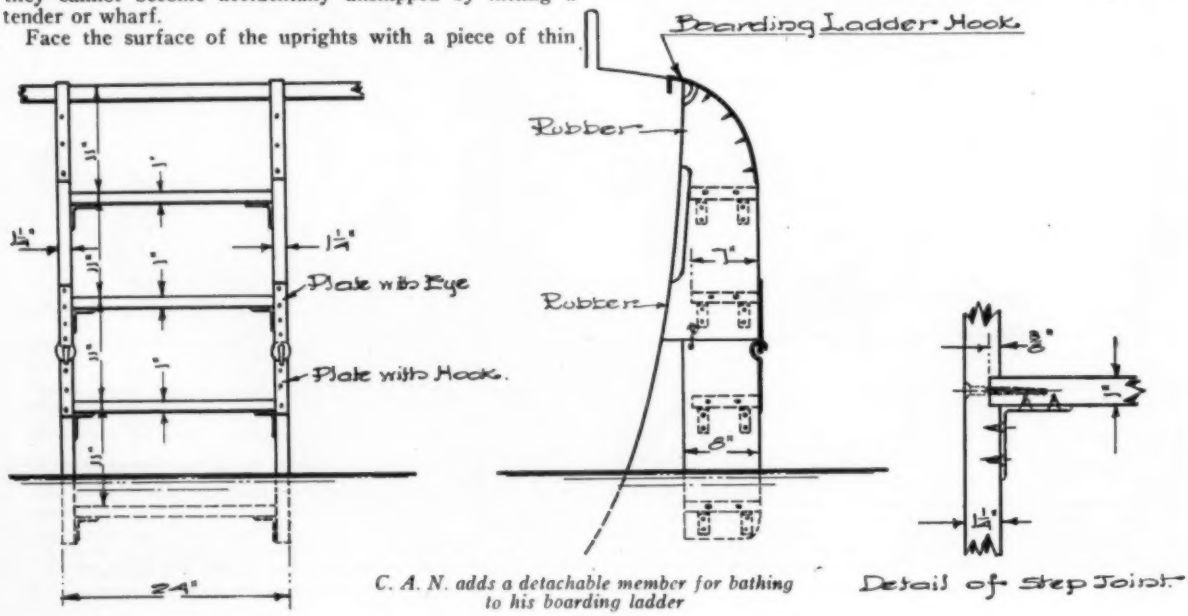
H. A. M., Phila., Pa.

Combination Boarding and Bathing Ladder

THE accompanying sketch shows a very simple and neat combination boarding and bathing ladder that can be easily built by anyone who has any knowledge of handling tools. The sketch shows one step under water; if desired, another one can be added which will make the bathing part of the ladder very much more useful. The trouble with most bathing ladders is the fact that they just come to the water thereby making it quite a task for the bather to get on the ladder; if you have some of the steps under water it makes it easier to climb out.

The boarding ladder itself is intended to be short, to have only about two steps. Of course this really depends upon the freeboard of the boat that the ladder is to be built for. But the main intention of having the ladder short is to be able to get the dinghy under it instead of alongside of it. This lessens the danger of anyone falling overboard in getting from the dinghy to the ladder, especially for the women. Getting the dinghy under the ladder enables one to step from the center of the boat to the ladder instead of trying to grab the ladder and make a big step, which in the case of a cranky small boat is liable to result in a capsize, with serious results.

The construction of the ladder is very simple as shown on the sketch. The best material to use for the sides and the steps would be oak as this is strong and will stand quite a lot of hard usage, it also will give a very good finish if varnished. Of course if (*Continued on page* 64)



C. A. N. adds a detachable member for bathing to his boarding ladder

A Complete Electric Power Station

One of the Present-Day Necessities on a Small Boat Is Electricity, Which Can Easily Be Provided by Following These Articles

Answers to the Following Question Published in the March Issue

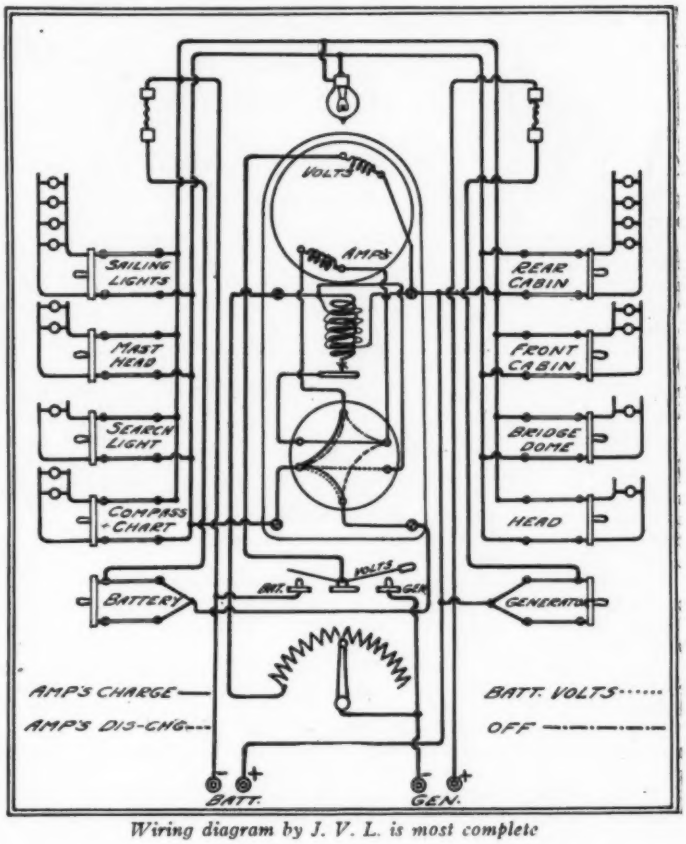
"Describe the installation of an electric lighting system suitable for a small cruiser, generator to be driven directly from the engine"

Electric Lighting System for Small Cruisers

(The Prize-Winning Answer)

THE following electric lighting system, installed on a forty-two-foot bridge deck cruiser, will give a good idea of the average cost and size of apparatus to be used.

The system consists of an electric generator, storage battery and switchboard. This outfit furnishes enough current to supply twenty-four bulbs for twelve hours on a fully charged battery, although sixteen lamps were used in this particular case. The bulbs used are twelve volt, five watt sign lamp bulbs and draw a current of 0.416 amperes. They resemble the ordinary one hundred and ten volt house lamp in size and have a very rugged construction with standard Edison base which fits the standard one hundred and ten volt snap socket. These bulbs, besides being very efficient from an electrical standpoint, eliminate the use of special electrical fixtures. The battery is a one hundred and twenty ampere-hour, twelve volt battery, and on the general rate of discharge (eight hours) will furnish fifteen amperes. As each lamp requires 0.416 amperes, fifteen divided by 0.416 gives thirty-four as a maximum number of lamps burning for eight hours. It is always best to use about half the maximum number of lamps as the battery is very seldom fully charged. The charging current for the battery is supplied from a fourteen volt, twelve ampere generator which can be regulated by a small rheostat or resistance on the shunt field. This is an important feature in the event that the battery becomes fully discharged. Automobile owners often find that after their battery has become run down, it is impossible to charge from the generator on the car and the battery must be taken to a charging station. This is caused by the large amount of current drawn by a battery when it is discharged below normal. The function of the shunt field regulator is to cut down to the proper charging current, which should never exceed fifteen amperes for a one hundred and twenty ampere-hour battery. To obtain the maximum charge or discharge current for a particular battery, divide the rating of the battery by eight. As the battery becomes charged the charging current drops down and finally reaches zero. The condition of a storage battery is best determined with a hydrometer, which is an instrument for determining the specific gravity of the battery solution.



Wiring diagram by J. V. L. is most complete

The switchboard shown in the photo controls all circuits. This may be clearly seen by referring to the wiring diagram. The terminals marked battery and generator are connected to same. The entire system may be run by the battery or generator by closing either battery or generator switch located at the bottom of the board. When the generator is running, by closing both switches the lamps may be lighted and the battery charged simultaneously. Other switches on the board control the individual circuits as shown on wiring diagram. The rheostat shown at the center of the board is used to regulate the charging current, and is connected in series; but by placing the resistance in the shunt field, a much smaller type may be used. Just above the rheostat may be seen two buttons, by means of which the battery or generator voltage may be read. The instrument used is a combination volt and ammeter, which indicates amps. charge, amps. discharge, and voltage.

It might be of interest to state that the sailing lights were changed from oil to electric by placing a wooden block in the base to which the lamp socket is attached. This block is easily removed and the oil lamp slipped in place in case of emergency.

The switchboard was made of hardwood, French polished, and the switches used were removed from a dis-

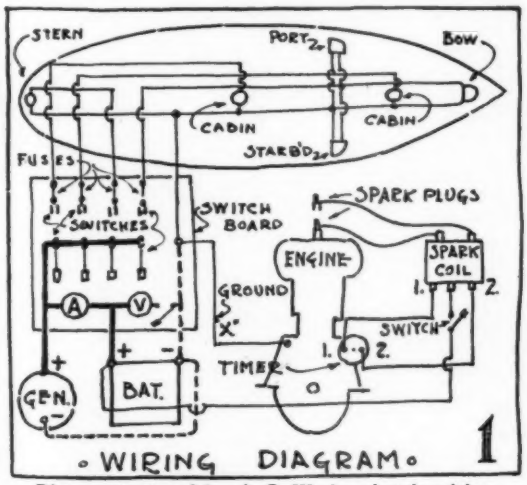


Diagram prepared by A. G. W. for electric wiring

carded panel which had been purchased from an electrical contractor. In wiring a boat, heavy copper wire should be used, about number twelve, so that there is practically no loss of electricity in the wires, which not only saves the battery, but gives brighter lights.

In view of the many advantages of electricity over kerosene, it will repay any boat owner to make up his own system at small expense, as there are any number of automobile generators and batteries which may be bought for a very moderate sum. The previous described outfit cost only thirty dollars, including battery, generator, switchboard and lights.

J. V. L., Astoria, N. Y.

Generator Driven by Silent Chain

A VERY satisfactory installation of a lighting system for the small motor boat is indicated on the accompanying sketches.

Figure 1 is a wiring diagram showing the various parts and connections of the system.

The heavy solid line from the generator to the storage battery is the positive (+) lead which is connected through a charge and discharge reading ammeter. The lead is connected to one side of the switches on the switchboard.

The dash line indicates the negative (—) lead between the generator and the battery. A connection is extended to the switchboard to receive the connections from the lighting circuits.

A voltmeter with a switch is shown across the positive and negative wires. This can be used to observe the voltage of the battery or of the generator when same is running. The volt meter, while a nice thing to have, is not essential and may be omitted. The proper use of a hydrometer will indicate the condition of the battery, anyway.

The wiring diagram is merely a suggestion and may be changed to suit the individual requirement.

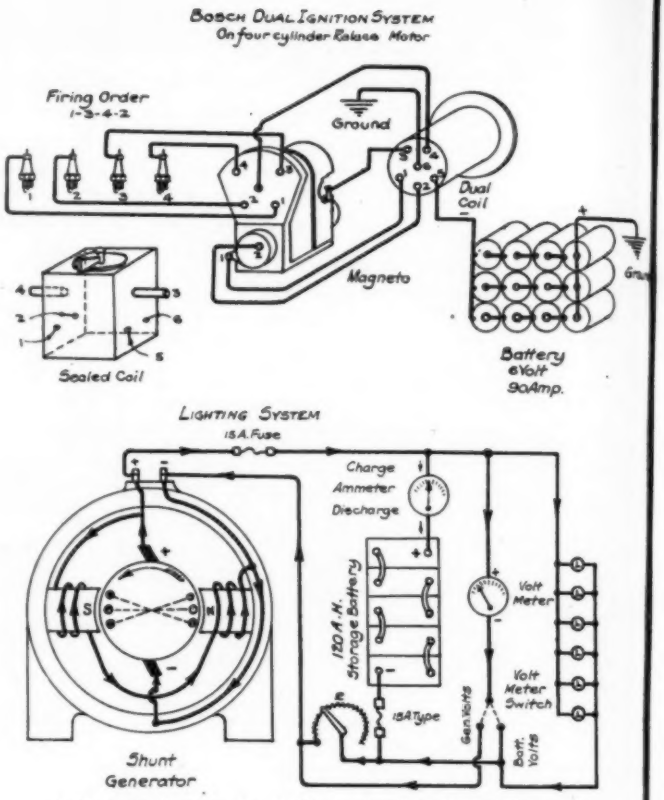
Any number of lights may be arranged consistent with the capacity of the battery and generator.

A six-volt hundred ampere battery and an eight-volt generator properly regulated will handle six four-candlepower lights very nicely.

A switchboard suitable for a boat may be made of a piece of hard rubber such as used for radio sets. Switches, meters, etc., may be easily mounted as desired.

It is advisable to use two point sprint base bulbs and sockets. A screw base socket will permit the bulbs to drop out due to vibration.

Use a fair size copper wire with good insulation and have all joints clean, soldered and covered with electric tape. It is a good idea to run all wire exposed where you can get at it; where it will keep dry. It may be covered with a small removable strip or moulding.



Additional diagrams by J. V. L. showing the ignition and battery charging circuits

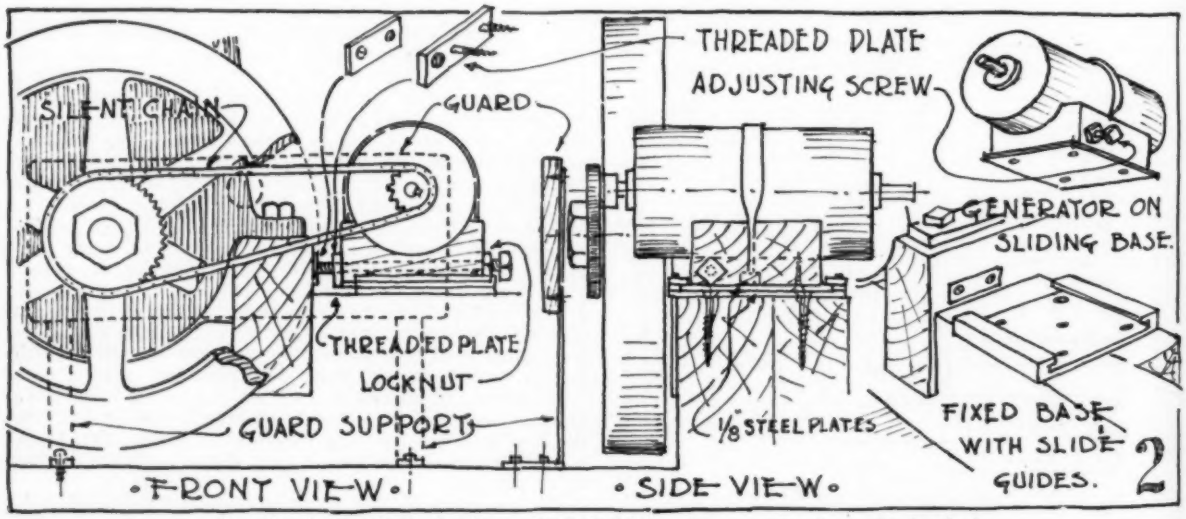
In connecting up if there is any doubt as to which wire is positive or negative insert the ends in a glass of salt water. The one which bubbles most is negative.

The wiring diagram also shows jump spark ignition for a two-cylinder motor. The main point to observe is to run the positive wire to the switch and then to the coil as shown. If the generator is properly grounded to the motor wire X may be omitted.

Figure 2 shows an acceptable method of attaching a generator.

The front of the motor is about the best place for the generator. It is get-at-able and is probably the dryest place around the motor.

A silent chain and two gears (*Continued on page* 100)

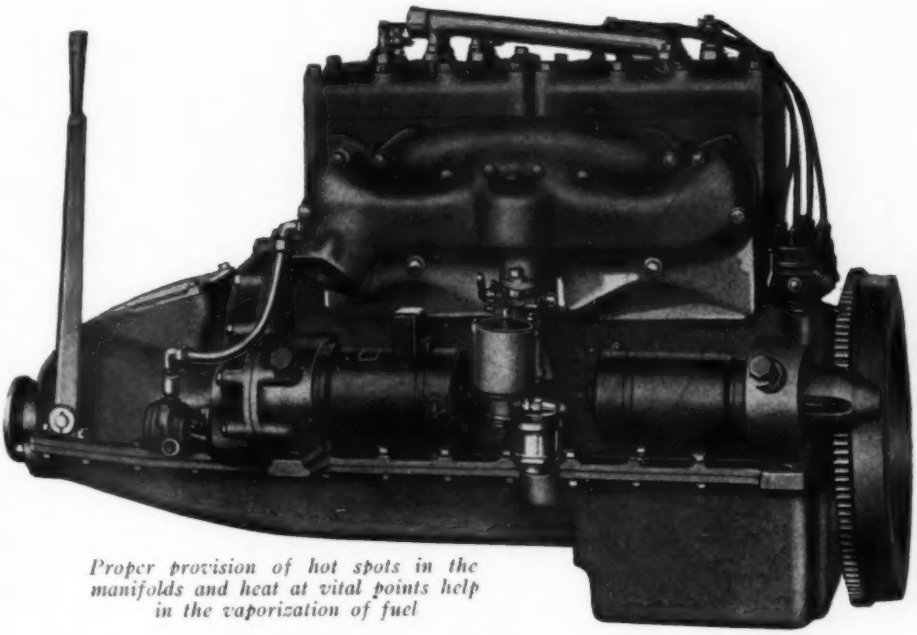


Drawing by A. G. W. showing method of driving the generator from the flywheel

Quality *in a* Small Engine

Newest Four Cylinder Scripps Model Produced to Meet the Demand for a Medium Power Unit of High Grade

IT was plainly apparent to all visitors at the Motor Boat Show, that the latest member of the Scripps family was destined to play the part of a headliner. Previously the output of the Scripps Motor Company has been restricted to larger units, but for some time an increasing demand for a quality machine of smaller size has caused the development of the new model F-4. This machine will be welcomed by owners of small boats who feel that they may want the best there is, even though the unit be a small one.



Proper provision of hot spots in the manifolds and heat at vital points help in the vaporization of fuel

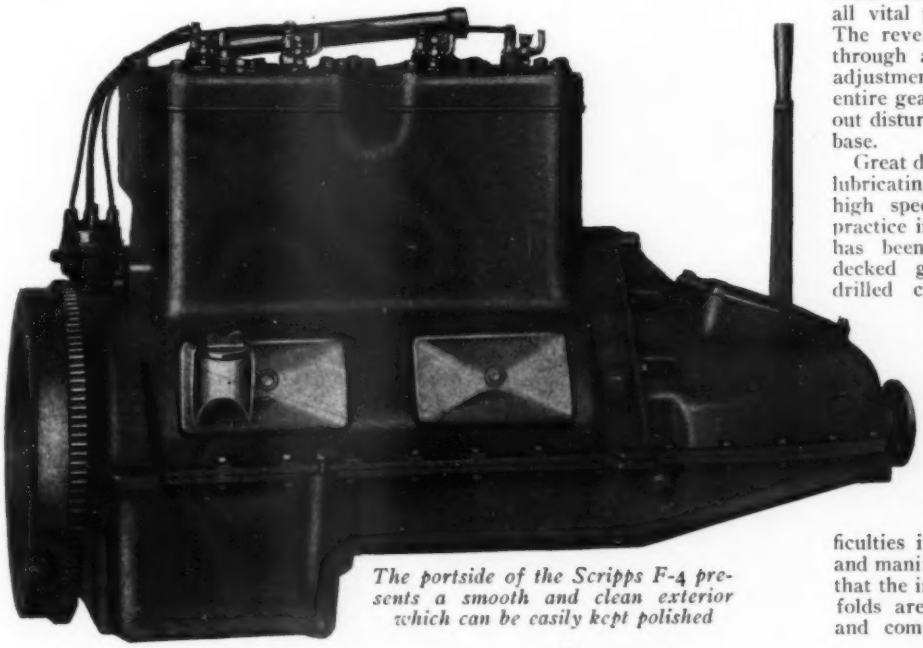
The first impressions on viewing the motor are its marked beauty in finish and appearance, next the compactness and light weight which adapt it particularly to the lightest and smallest boats. Its overall dimensions are but 44 inches in length and its weight is 550 pounds. The design and construction is such that it will withstand hard service as nothing has been sacrificed to reduce the weight.

Brief specifications list the machine as a four cylinder, four cycle unit with a bore of 3¾ inches and a stroke of 5 inches. It is produced in two types, a medium duty ranging from 15 to 25 h.p. and a high speed type ranging from 30 to 45 h.p. The cylinders are cast four en bloc with an integral crankcase and show painstaking thought in design to secure the right balance of rigidity and stability with a minimum of weight. The crankshaft 2¼ inches in diameter, is extremely large and is in static and dynamic balance. Connecting rods are extra long and carefully designed so as to work towards a total elimination of vibration.

The accessibility required in marine practice has been given careful attention. Hand hole plates of liberal size give access to the crankcase, while removable cylinder heads are cast in pairs and reveal all vital parts with little effort. The reverse gear is accessible through a plate and all needed adjustments or, if necessary, the entire gear can be removed without disturbing the motor from its base.

Great demands are made of the lubricating system of the modern high speed machine and latest practice in high pressure systems has been followed. A double decked gear pump through a drilled crankshaft supplies all main bearings, connecting rod bearings, and the reverse gear. The pump is placed low in the sump and is instantly removable for examination.

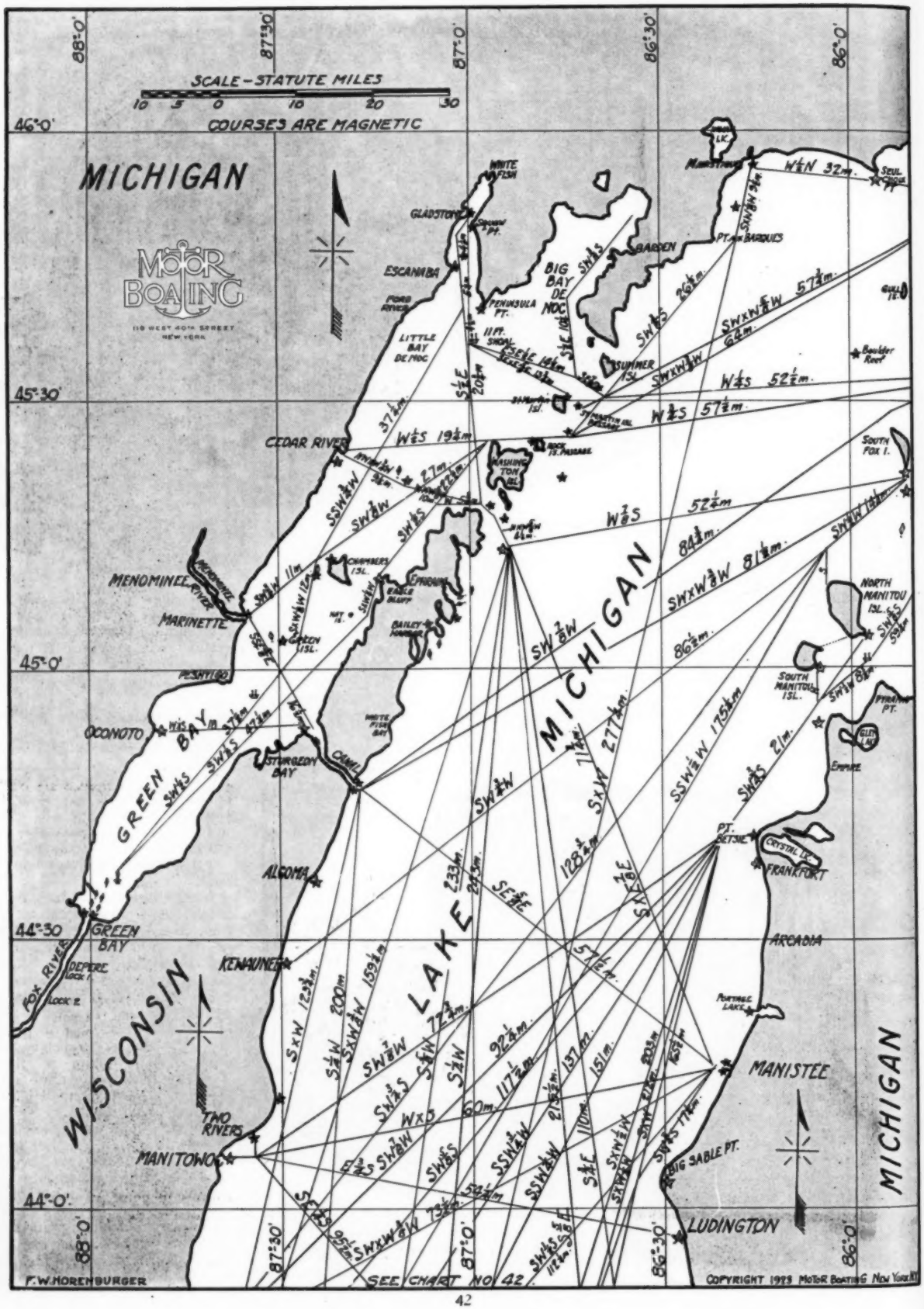
The rapid lowering in the quality of gasoline each year has presented increasing difficulties in point of vaporization and manifolding. It will be noted that the intake and exhaust manifolds are embodied in one unit and completely water jacketed.



The portside of the Scripps F-4 presents a smooth and clean exterior which can be easily kept polished

Motor Boatman's Chart No. 43, Lake Michigan—Northern Part

For Use in Connection With U. S. Lake Survey Charts, Catalog Nos. 7, 71, 72, 73, 77, 78, 79



Lake Michigan *as a* Cruiser's Playground

Picturesque Portions of This Tremendous Inland Sea Make It an Ideal Cruising and Vacation Delight

LAKE MICHIGAN is the playground of Chicago's motorboat men. It has superior advantages over its sisters of the Great Lakes system because of its numerous harbors and summer resorts located principally along its east shore. These are visited by many thousands of people annually from all parts of the United States. The boating season usually extends from the middle of May to the middle of October. As the lake is a fresh water body the cruiser boatman has no difficulty about his fresh water supply for drinking and cooking. There are no currents or tides to contend with and there are few shoals or other obstructions to navigation in the vicinity of its many harbors.

The maximum length of the lake from north to south is 321 miles with maximum width from east to west of 118 miles. Its water surface area is 22,400 square miles and its low water elevation is 578.50 feet above mean sea level to which all navigation charts are referred. Its maximum depth is 870 feet. Liberal provision has been made by the Federal Government for the protection of navigation by the expenditure of many millions of dollars in the improvement of harbors and their approaches by dredging, construction of piers, breakwaters and lighthouses. There are thirty-one United States Coast Guard Stations, thirty-four Storm Warning Display Stations and seven Radio telegraph stations on the lake. Aids to navigation have been established at all harbors which are fully described in Buoy List, Lake Michigan and Green Bay, published by the Lighthouse Service and sold by the Superintendent of Documents, Washington, D. C., for twenty cents. Pilot Rules for the Great Lakes and their Connecting and Tributary Waters, published by the United States Steamboat Inspection Service, Department of Commerce, apply on this lake. The law requires motor craft to carry on board two copies of these rules as well as two copies of Department of Commerce Circular No. 236 (Regulation of Motor Boats). Motorboat men contemplating a cruise on Lake Michigan are advised to apply to the United States Lake Survey Office, Old Customhouse, Detroit, Michigan, for a catalogue of charts of the Great Lakes containing a complete description of thirty-three charts covering Lake Michigan, its harbors and connecting waterways. These charts are very complete and accurate and range in cost from fifteen to thirty cents each. When purchasing a chart from the Lake Survey Office application should also be made for a copy of the latest edition of the Lake Survey Bulletin. This publication contains a most comprehensive description of all harbors, connecting channels, bridge regulations, clearances under bridges and other invaluable data for the navigator. It is revised annually and contains over 450 pages. It is not sold separately, but is issued free to chart purchasers upon application.

As Lake Michigan forms a link in the route for cruisers en route to southern waters a brief description of the water highway from the south end of Lake Michigan at Chicago to the Mississippi River follows: The route is via Chicago River, Chicago Sanitary and Ship Canal, Illinois and Michigan Canal and Illinois River to Grafton, Illinois, on the Mississippi, a distance of 325 miles. The maximum draft that can be carried after entering the Chicago River is 4½ feet, which is the limiting depth of the Illinois and Michigan Canal which must be traversed for a distance of 62 miles from Joliet to La Salle, Illinois. A very complete publication, entitled Illinois Waterways, A Guide for Navigation covering the route from Chicago to the Mississippi River, is issued free of charge to applicants by the Division of Waterways, State of Illinois, 25 East Jackson Boulevard, Chicago, Illinois. The two lists of lights and day marks of the upper and lower Mississippi River, published by the U. S. Lighthouse Service, cover the Mississippi River portion of the route. These lists are sold by the U. S. Superintendent of Documents, Washington, D. C., for twenty cents each. The State bulletin and the lighthouse lists are all the data required for making this trip in safety.

There is another route from Lake Michigan to the Mississippi River via the Fox River, emptying into Green Bay, and the Wisconsin River, flowing to the Mississippi River. These two rivers are separated at Portage, Wisconsin, by a distance of only two miles, and a canal across this divide affords a navigable connection between the two streams. The distance by this route from Green Bay to the Mississippi River is 281 miles. Owing to insufficient channel depths, the shifting nature of the channel bed, and the current of the stream, it is not easily navigated and is seldom used.

One of the most delightful of the numerous harbors on the east short of Lake Michigan is that of Saugatuck, Michigan, on Lake Kalamazoo, lying N. E. ⅜ E. (magnetic) 89 miles from Chicago Harbor to the entrance piers at the mouth of Kalamazoo River. The entrance channel has a depth of approximately 13 feet over the bar and a depth of 11 to 14 feet in the river channel for a width of 90 feet and length of two miles to the town of Saugatuck. Lake Kalamazoo is a picturesque body of water about two miles long and three-fourths mile wide, surrounded by pine-clad hills whose deep purple shadows cast themselves upon the waters, which together with the pine balsam aroma from the woods leaves a lasting impression upon any one fortunate enough to visit this paradise via motorboat. The locality has a peculiar charm of its own as is evidenced by the fact that it is the vacation rendezvous of several yacht and motorboat clubs of Chicago. The town of Saugatuck is a rural community distant five miles from the nearest railroad. It has excellent hotel and summer cottage accommodations and fuel and supplies of all kinds are available. For a quiet and restful vacation Saugatuck is unequalled. As may be seen by reference to the chart, Saugatuck may be reached by easy stages following the shore line.. The off-lying water is clear of shoals outside a distance of three-eighths miles. The shore is picturesque and is generally skirted by sand dunes, bluffs and wooded hills rising to an elevation of over 200 feet above the surface of the lake. Stops may be made en route at Michigan City, Indiana, St. Joseph and South Haven, Michigan. The harbors at each of these places possess attractive features to the man who cruises.

Beyond Saugatuck on the east shore are many delightful vacation spots—Holland (Black Lake), Grand Haven (Spring Lake), Muskegon (Muskegon Lake), Montague and White-Hall on White Lake, Pentwater, Ludington, Manistee, Portage Lake, Arcadia, Frankfort, Grand Traverse Bay, Harbor Springs, Charlevoix, Petoskey and Mack-

(*Continued on page* 134)

Next Month

The chart which will appear in June will connect the tips of Lakes Michigan and Huron through the Straits of Mackinac. In July the northwestern portion of Lake Huron will be covered, and this will be followed in August by the southern portion of this lake. The lower portion of Lake Michigan appeared in April MOTOR BOATING.

Atlantic Coast *and* Harbor Charts

Numbers and Locations of All Atlantic Coast Charts Which Can Be Supplied by the Coast and Geodetic Survey Stations

Figures in Bold Type Indicate Charts on a Scale of 1 : 80,000 While Others Are for Larger Scale Detail Charts

No.

MAINE

225 Approach to Penobscot Bay (Matinicus Harbor)
228 Cape Neddick Harbor to York River.
229 Portsmouth to Dover and Exeter.
230 Boothbay Harbor to Bath.
288 Kennebec River, Abagadasset Point to Courthouse Point.
303 Moose Cove to Englishman Bay, including Machias Bay.
304 Cross Island to Nash Island.
305 Nash Island to Schoodic Island.
306 Frenchman Bay and eastern part of Mount Desert Island.
307 Blue Hill Bay and western part of Mount Desert Island.
308 Approaches to Blue Hill Bay and Eggemoggin Reach.
309 East Penobscot Bay.
310 West Penobscot Bay.
311 Penobscot River and Belfast Bay.
311a Fox Islands Thoroughfare.
312 St. George River and Muscle Ridge Channel.
313 Damariscotta and Medomak Rivers.
314 Kennebec and Sheepscot Rivers.
315 Casco Bay.
317 Winter Harbor, Schoodic Peninsula.
318 Bar Harbor, Mount Desert Island.
319 Belfast Harbor.
320 Rockland Harbor.
321 Camden and Rockport Harbors.
325 Portland Harbor.
327 Richmonds Island Harbor.
801 Calais to West Quoddy Head.
1201 Quoddy Roads to Petit Manan Island.
1202 Frenchman and Blue Hill Bays, and approaches.
1203 Penobscot Bay and approaches.
1204 Monhegan Island to Cape Elizabeth.
1205 Cape Elizabeth to Portsmouth.

NEW HAMPSHIRE.

289 Kennebec River, Courthouse. Point to Augusta.
329 Portsmouth Harbor.
330 Isles of Shoals.
1206 Portsmouth to Cape Ann.

MASSACHUSETTS

331 Newburyport Harbor.
240 Salem and Lynn Harbors.
242 Cohasset Harbor.
243 Ipswich Bay to Gloucester Harbor.
245 Harbors of Plymouth, Kingston and Duxbury.
246 Boston Harbor.
247 Hyannis Harbor.
248 Boston Inner Harbor.
249 Buzzards Bay.
250 Eastern entrance to Nantucket Sound.
251 Head of Buzzards Bay.
252 New Bedford Harbor and approaches.
297 Cuttyhunk Harbor.
339 Barnstable Harbor.
340 Wellfleet Harbor.
341 Provincetown Harbor.
343 Nantucket Harbor.
345 Robinson Hole and Quicks Hole.
346 Edgartown Harbor, Marthas Vineyard.
347 Vineyard Haven.
348 Woods Hole.
1207 Massachusetts Bay.
1208 Cape Cod Bay.
1209 Nantucket Sound and approaches.
1210 Marthas Vineyard to Block Island, including Buzzards and Narragansett Bays

RHODE ISLAND

262 Narragansett Bay, Eastern Passage, Carrs Point to Sandy Point.
276 Harbors of Refuge at Point Judith and Block Island.
278 Providence River and Head of Narragansett Bay.
352 Providence Harbor.
353 Narragansett Bay.
353[a] Newport Harbor and entrance to Narragansett Bay.
354a Bristol Harbor and approaches.
355 Warren River.
357 Wickford Harbor, Narragansett Bay.
1211 Block Island Sound and approaches.

CONNECTICUT

215 Connecticut River, entrance to Deep River.
216 Duck Island to Madison Reef.
217 Guilford Harbor to East Haven River.
218 New Haven Harbor.
219 Milford to Stratford, including Housatonic River.
220 Stratford to Sherwood Point.
221 Sherwood Point to Stamford Harbor.
222 Greenwich Point to New Rochelle.
254 Connecticut River, Deep River to Higganum.
255 Connecticut River, Higganum to Rocky Hill.
256 Connecticut River, Rocky Hill to Hartford.
274 Harlem River.
293 New London Harbor and Naval Station.
358 Fishers Island Sound.
359 Thames River—Harbor of New London and approaches.
361[a] Port Jefferson, Long Island.
369 New York Harbor.
369[a] Hudson and East Rivers, from West 67th Street to Blackwells Island.
369[b] Hudson River, Days Point to Fort Washington Point.
1212 Long Island Sound, eastern part.
1213 Long Island Sound, western part.

NEW YORK

223 Long Island Sound and East River (Hempstead Harbor to Tallman Island).
224 Oyster and Huntington Bays.
226 East River, Tallman Island to Queensboro Bridge.
281 Hudson River—New York to Haverstraw.
282 Hudson River—Haverstraw to Newburgh.
283 Hudson River—Poughkeepsie to Hudson.
284 Hudson River—Coxsackie to Troy.
541 New York Harbor, Upper Bay and Narrows (anchorage chart).
542 Jamaica Bay and Rockaway Inlet.
544 Kill van Kull.
578 Inland waters, Shinnecock Bay to Great South Bay.
1214 Shinnecock Light to Fire Island Light.
1215 Approaches to New York, Fire Island Light to Sea Girt Light.

NEW JERSEY

287 Passaic and Hackensack Rivers.
298 Gardiners Bay, Long Island.
299 Peconic Bay, Long Island (Mattituck Inlet).
375 Raritan River.
543 Shrewsbury River.
1216 Sea Girt Light to Little Egg Inlet (Little Egg Inlet).
1217 Little Egg Inlet to Herefort Inlet (Absecon Inlet).

PENNSYLVANIA

295 Delaware River—Wilmington to Philadelphia.
296 Delaware River—Philadelphia to Trenton.
380 Philadelphia waterfront, Delaware River.
381 Philadelphia waterfront, Schuylkill River.

DELAWARE

294 Delaware River—Bombay Hook to Wilmington.
379 Cape Henlopen and the Delaware Breakwater.
1218 Delaware Bay.
1219 Cape May to Fenwick Island Light

MARYLAND

385 Annapolis Harbor.
539 Patuxent River.
545 Baltimore Harbor.
548 Chester River.
549 Approaches to Baltimore Harbor.
557 Potomac River, entrance to Piney Point.
558 Potomac River, Piney Point to Lower Cedar Point.
559 Potomac River, Lower Cedar Point to Mattawoman Creek.
560 Potomac River, Mattawoman Creek to Georgetown (Washington Harbor).
1220 Fenwick Island Light to Chincoteague Inlet.
1225 Chesapeake Bay—Cove Point to Sandy Point.
1226 Chesapeake Bay—Sandy Point to Head of Bay.

VIRGINIA

400 Hampton Roads, with continuation to Norfolk.
451 Southern Branch of Elizabeth River.
481 Cape Henry to Thimble Shoal Light.
494 York River, entrance to Yorktown.
495 York River, Yorktown to Westpoint.
504 Pamunkey and Mattaponi Rivers.
529 James River, Newport News to Jamestown.
530 James River, Jamestown Island to Jordan Point
431 James River, Jordan Point to Richmond.
534 Rappahanock River, entrance to Tolls Point, including Great Wilcomico River.
535 Rappahannock River—Tolls Point to Marsh Point.
536 Rappahannock River—Marsh Point to Fredericksburg.
1221 Chincoteague Inlet to Hog Island Light.
1222 Chesapeake Bay entrance.
1223 Chesapeake Bay—Wolftrap to Smith Point.
1224 Chesapeake Bay — Smith Point to Cove Point.
1227 Cape Henry to Currituck Beach Light.

NORTH CAROLINA

148 Bogue Inlet to Old Topsail Inlet.
150 Old Topsail Inlet to Shallotte Inlet, including Cape Fear.
406 North Landing River.
409 Mouths of Roanoke River.
420 Beaufort Harbor.
421 Core Sound and Straits.
422 New River Inlet.
424 Cape Fear River, entrance to Reeves Point.
425 Cape Fear River, Reeves Point to Wilmington.
537 Pamlico River.
538 Neuse River and upper part of Bay River
1228 Albemarle Sound.
1229 Currituck Beach to New Inlet.
1231 Pamlico Sound, western part.
1232 Cape Hatteras, Wimble Shoals to Ocracoke Inlet.
1233 Portsmouth Island to Beaufort, including Cape Lookout Shoals (Lookout Bight).
1234 Cape Lookout to New River.

SOUTH CAROLINA

151 Little River Inlet and part of Long Bay.
152 Murrells Inlet to Cape Romain, including Winyah Bay.
153 North Island to Isle of Palms, including Cape Romain.
470 Charleston Harbor.
571 Port Royal Sound and inland passages.
1239 Charleston Harbor and approaches.
1240 St. Helena Sound to Savannah River.

GEORGIA

157 From Sapelo Island, Ga., to Amelia Island.
440 Tybee Roads, Savannah River and Wassaw Sound.
450 Satilla River, Bailey Cut to Burnt Fort.
1241 Tybee Island to Doboy Sound.

FLORIDA

158 St. Marys entrance and southward to latitude 30° N.
159 St. Augustine Inlet to Halifax River.
1248 Jupiter Inlet to Fowey Rocks.
1249 Fowey Rocks to Alligator Reef.
1250 Florida Keys, Alligator Reef to Sombrero Key
1251 Florida Keys, Sombrero Key to Sand Key.
1252 Sand Key to Rebecca Shoal.

You Will Want Charts for This Summer's Cruising—Here They All Are

THIS is a condensed list of all charts covering the entire Atlantic Coast. It is most useful in determining the index numbers of charts which may be needed to cover any desired stretch of coast or rivers. For example: What chart numbers are required to navigate the Connecticut River as far as the city of Hartford? Consulting the table under the Connecticut heading we find Chart No. 251, Connecticut River, entrance to Deep River. A little further down we will find Nos. 254, 255 and 256. The first of these covers the river from Deep River to Higganum, the second from Higganum to Rocky Hill, and the third from Rocky Hill to Hartford. These four charts cover the entire river as far as desired. In a similar way any other chart number can be readily found. All charts published by the U. S. Coast and Geodetic Survey office can be obtained in practically every seaport city at agencies whose addresses are published monthly in the Notice to Mariners and in general chart catalogs.

All Yacht Clubs Asked *To* Co-operate

The New President of the American Power-Boat Association to Make an Effort to Bring Together All Yachting Interests for the Good of the Sport

COMMODORE FRED R. STILL, of Detroit, is the first Westerner to ever hold the office of president of the American Power Boat Association, the oldest national power boating organization in America. He was elected on Feb. 28, to fill out the unexpired term of the late Albert L. Judson, of New York City and while he comes from the West, early in March he took up his residence in New York City, business having taken him to the Metropolis permanently.

Commodore Still has always been interested in the perpetuity of the motor boat racing sport and the welfare of the boat owner. He has, with his usual thoroughness indited a message to all these aquatic sportsmen, but that they might better understand him, we give herewith a short biographical sketch of the A. P. B. A.'s chief executive.

Saginaw, Mich., is the birthplace of Commodore Still, the date being Nov. 25, 1867. His father was one of the pioneer lumbermen of Michigan who settled in Saginaw and saw it grow into the richest city in the state for its size. His father was a partner in the firm of Burnham & Still and operating lumber mills in Saginaw until the timber played out in 1881. The elder Still then went into the shipping business for himself, operating a fleet of three lake steamships. He early instilled into the son the love of the water and many of his happiest boyhood days were spent on his father's steamers plying the Great Lakes.

When the Commodore was a lad of five he was taught to swim by his father and presented with a canoe. From that time on he was a boat owner, whether it was man power, sail or motor operated. In the winter he was envied by other Saginaw lads for he always had an ice-yacht.

After the lumbering operations ceased Fred moved to Detroit in 1885 with his father and has been a resident of the City of the Straits since his eighteenth year. He had his first motor boat in 1900, when he purchased a 26 foot open boat from the Michigan Yacht and Power Co., which he christened Nan. She was powered with a 6 by 6 two cycle Sintz engine which Commodore Still asserts weighed a ton. In 1905 he joined his first yacht club, the Edgemere, and became a windjammer, buying the yawl Gloria.

In 1907 he purchased what was the fastest power boat around Detroit, known as Key West. She was built in Bay City and powered with a three cylinder, Smalley two cycle two port engine. Her record was 22.1 miles an hour. In 1909 he joined the cruiser fleet of the Detroit Motor Boat Club, with Laneta, a 33 by 9 foot cabin cruiser.

It was in 1907 that Commodore Charles W. Kotcher organized the Detroit Motor Boat Club and Commodore Still was one of the charter members. He was appointed chairman of the regatta committee and has held that office for practically every power boat regatta in the Detroit district since that time, except in 1919 when he made a trip around the world. He was appointed to the same position several times by the Inter Lake Yachting Association and held the berth during the Perry Centennial regatta, at Toledo and Put-in-Bay, in 1913.

When the Detroit Motor Boat Club was disbanded in 1914 he joined the Detroit Yacht Club and for the last three years has been a director of this famous club. He had charge of the bonding and the sale of the securities for the new $700,000 club house on Belle Isle, which will open May 30. He was re-elected a director at the annual meeting last January, for a two year term and the board has refused to accept his resignation. He was one of the directorate to work out the financing plan, a plan which has since been adopted by other clubs. The new D. Y. C. plant will be the largest building of its kind in the world; the appointments are not equalled in the yachting world and no club in the country will excel and few can compare with it for beauty, location, facilities or popularity.

Commodore Still came into contact with the A. P. B. A. during the life of the D. M. B. C. but his activities of recent years date from the year 1914. In that year he joined with the syndicate which built Miss Detroit and won the 1915 Gold Cup race at Manhasset Bay. When the cup was won in 1916 at Detroit by Miss Minneapolis, he was chairman of the regatta committee of the Miss Detroit Power Boat Association and has held this title, since it was merged with the Detroit Gold Cup Committee. Commodore Garfield A. Wood flashed across the national power boat racing horizon in 1917 when he built Miss Detroit II and took the cup from Minneapolis back to Detroit where it has since remained. The new A. P. B. A. chief executive has actively participated in the upbuilding of yachting on the Great Lakes, almost from its beginnings, and his observations which follow will be of interest to all yachtsmen.

"Many people fail to realize the tremendous influence motor boat racing has to popularizing yachting," says Commodore Still. Here in Detroit we have had an opportunity to note it more than perhaps anywhere else in the world. Until the syndicate was formed in 1914 to build Miss Detroit yachting was almost dead. The mere fact that a boat from Detroit won the Cup would have meant nothing to the average mind if we had not made it a *civic event,* by getting the *public interested financially.*

We got thousands to invest from one dollar upwards. We gave all of them a card, which indicated they were members of the Miss Detroit Power Boat Association. They were proud of it and helped boost the game. All wanted to do something and they did. They helped in any capacity to which they were assigned, if nothing more than to taxi people from down town to the club with their autos. We have raised several thousand dollars every year to meet expenses for prizes and for entertaining; have also had prizes donated some of which were valued up to $5,000 for some of the events. What Detroit has done to pave the way can be done by any city and many of them have done it. (*Continued on page* 66)

A MESSAGE OF INTEREST

COMMODORE FREDERICK R. STILL, the newly elected president of the American Power Boat Association, sends a message of great interest to all motor boatmen of the country, which is printed in full on this page and should be read by all. President Still promises to make the A. P. B. A. a stronger and more useful organization to the yachtsmen of the country than it ever has been in the past—he will make it truly national in scope and endeavor to have all local organizations become a part of it and work for the general good of all yachting interests. It is not the idea of the new president to inaugurate a policy which will force any existing organizations out of being or to usurp their power or prestige, but he simply asks their co-operation and support for the common good.

The American Power Boat Association is an organization of yacht clubs and not individuals. Its functions are advisory only. It is in no sense a racing organization, although one of its principal duties is to suggest equitable and standard racing rules for use everywhere. It has committees which closely watch legislative matters and see to it that no unfair national or state navigation laws are passed and that tax matters are kept under control. It takes up with the proper government departments the proper buoying and marking of our channels and waterways in a way of most use to the yachtsmen of the country.

The A. P. B. A. needs the support of every yacht club in the country. Its dues are so nominal that no club can afford to be a non-member of this great organization.—EDITOR.

Yard *and* Shop

Notes of Interest to Both Owner and Manufacturer

National Association Election

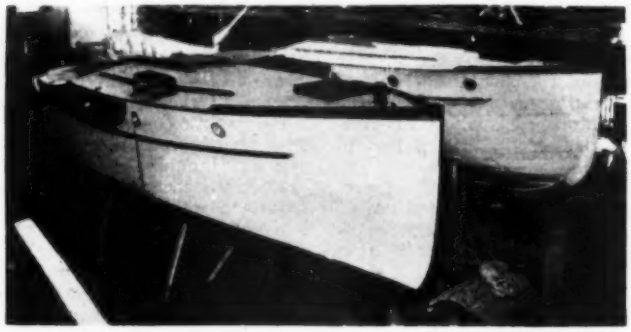
At a regular meeting of the Executive Committee of the National Association of Engine & Boat Manufacturers, the annual election of officers for the ensuing year took place, at which the following officials were chosen: Henry R. Sutphen was elected President; John J. Amory, first Vice-President; Charles A. Criqui, second Vice-President; George F. Lawley, third Vice-President, and James Craig, Treasurer. A report of the Exhibition Committee mentioned that while the expenses in connection with the recent Show were heavier by reason of the longer duration, the Show was one of the most successful which the Association has ever conducted.

The Niagara Special

The modern factory of the Niagara Motors Corporation at Dunkirk, New York, is featuring the new Niagara special motor for the 1923 season in addition to continuing the production of all their regular models for small pleasure craft and commercial boats. As all indications point to a record season, the Company has anticipated the demand and is prepared to take care of it.

Six different models make up the Niagara line and these are capable of taking care of practically every type of motor boat from sixteen to seventy-five feet in length. The regular two-, four-, six-, and, eight-cylinder motors will be built again this year along the same sturdy lines that have featured these engines for so long. Some of these motors have been known to perform satisfactorily for many years. An instance is an engine which has been in passenger service for six seasons averaging at least 7,000 miles per year.

The new motor which the Company has added to their assortment is a 9—15 h.p. four-cylinder, enbloc engine complete in every detail. It is intended particularly for the small boat owner, and like all other Niagaras is fitted complete with magneto, carbureter, reverse gear, and all accessories ready for immediate service.



Some of the 33½-foot Gordon specialized cruisers rapidly nearing completion at the plant of the Company in Brooklyn. These boats are completely equipped and provided with the 20 or 35 h.p. Kermath four-cylinder engines as desired

International Sweepstakes

The first annual International Motor Boat Sweepstakes Race will be held on Labor Day, September 3, on the Detroit River, over a distance of 150 miles. The prizes aggregate $25,000, divided as follows: The first will be $10,000; the second, $5,000; the third, $3,000; the fourth, $2,000; the fifth, $1,500; the sixth, $1,000; the seventh, $700; the eighth, $500; the ninth, $300; and the tenth, $200. In addition there will be special lap prizes, and also $200 for the best lap time. The contest will be conducted under the management of the Yachtsmen's Association of America and in accordance with the general racing rules of the American Power-Boat Association. Secretary J. Lee Barrett, 7924 Riopelle Street, Detroit is prepared to answer all communications in reference to this race.

The display room of the Marine Engine Company of Philadelphia in the Bourse Building of that city. This company is the distributor for many high-class machines,, and in the illustration are shown Kermath, Scripps, Hall-Scott, Automatic, Universal, and other types of engines

A New Pollock Rip Channel

A dredged channel 430 yards wide was recently opened around Cape Cod and the old Pollock Rip Slue Channel was abandoned. The new channel has been marked with buoys and light vessels and offers practically a straight course passing close to Cape Cod and in a northeasterly direction through the shoals off Monomoy Point. The new channel is 1½ miles shorter than the old, and all traffic passing this point will be benefited. The work involved in this dredging operation was very difficult and has been going on for about ten years.

New Boats Nearing Completion

Several attractive new vessels are building at City Island from designs by Tams & King. Among these is a 45-foot day cruiser for Clinton H. Crane, built entirely of teak and equipped with a six-cylinder Speedway engine. A 75-foot twin screw yacht equipped with two Speedway engines has recently been taken over by Edward C. Browning of Philadelphia, who intends to cruise in Maine waters with her. A yawl for A. E. Wheeler is also being finished for early service. This boat will be equipped with a Fay & Bowen engine for auxiliary service.

Diesel Engine Handbook

A ready reference handbook covering the subject of Diesel and other oil engines has bene published by the Technical Publishing Company, at Los Angeles. This book, entitled "Diesel and Oil Engine Handbook," should prove of the highest value to all in this field. Its information is of a strictly practical nature and written in simple language, suitable for all who seek knowledge on this subject.

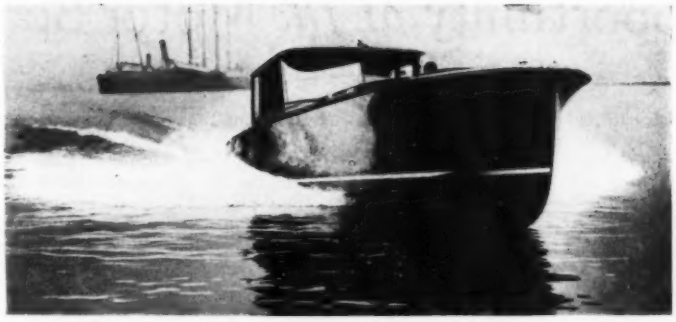
Gordon Boat Company Grows Fast

THE Gordon Boat Building Company, Brooklyn, N. Y., have again had to enlarge their floor space and increase their number of men to take care of the orders received. Many of their boats have already been delivered and orders are on hand for a large number of their model B standardized cruisers from prominent yachtsmen in all sections of the east.

A personal inspection of the Gordon boat showed her to be substantially constructed in every respect. Her lines are exceptionally fair and easy and from what we have seen of their performance we know that they are wonderful sea boats and easily driven. Their construction is exceedingly strong and they are built to stand the hardest sort of punishment from rough weather. The interior cabin arrangement is very cleverly worked out, every inch of room being utilized to the best advantage, thereby making a large comfortable appearing cabin which is only gained by not cutting up the interior arrangement as is too often done.

The Kermath motor is completely enclosed under the bridge deck and is easy of access; the cockpit is large and roomy and there is a lazarette under the after deck that is large enough to carry a large amount of stores, more than sufficient to cover the needs of a long cruise.

This company, not being satisfied with their successful models, are now putting on the market their model D boat, which is 28-feet, by 8-foot beam. This is a combination of their model C shoal draft hull with model A topsides, as well as a 23-foot non-sinkable boat with a 6-8 h.p. Kermath motor, to be built on a large production basis.



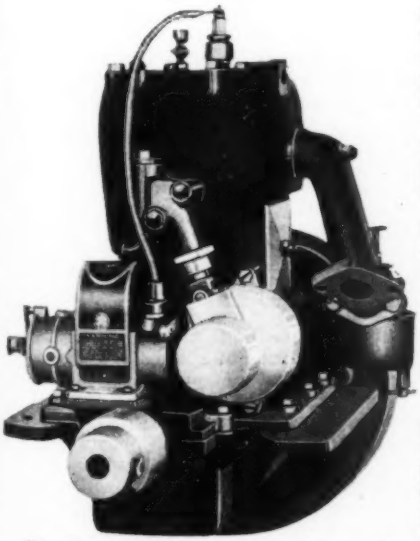
Go Get Em, a 33-foot sedan runabout owned by F. W. Stevens of Toledo. She has been equipped with a Stearns extra reserve model MDR 100 h.p. engine supplied through M. G. McLaughlin of Seattle. At 1,600 r.p.m. she does better than 25 miles

IRA JR. CAUSES A HOLIDAY

The other day in New York City all the whistles blew, all the flags waved, and all the people roared with tumultuous joy. Ferry and motor boats ceased churning the fretful waters of the two rivers, huge liners, bound to or from the mighty deep, arrested their majestic movement, and even the Statue of Liberty dipped her mighty arm in salute.

We had been awaiting this day for nearly nineteen long and weary years. Motor boat shows had come and gone, each bigger and better than the last, and Ira Hand, secretary of the N. A. E. & B. M., has passed out the press tickets with his famous prodigality. We have appreciated his largess, but always there has been something lacking. We have felt that the shows were tinged with an atmosphere of impermanency. They were magnificent, but who was there to perpetuate their success when Ira Hand turned his attention elsewhere?

But, as we say, the great day has become history, and the future of the national motor boat shows is assured. The motor boat industry draws a breath of deep relief and redoubles its industry, quadruples its energy, octuples its enthusiasm. After nineteen years Ira Hand has been blessed with a son and heir.



The Du Brie single cylinder four cycle 5 h.p. marine engine is a high class little machine designed and built for economical operation. It is adapted to use standard Ford parts in many places

Model Boat Building

A new book which will be of great assistance in manual training classes is one just published by the Bruce Publishing Company of Milwaukee. It describes in detail the construction of hulls for model sail and power driven small boats. Complete descriptions for a 24-inch sharpie, a 30-inch yacht, and a 36-inch model yacht are given. They are designed to be driven by small steam engines or electric motors. All drawings are easily read and insure successful work.

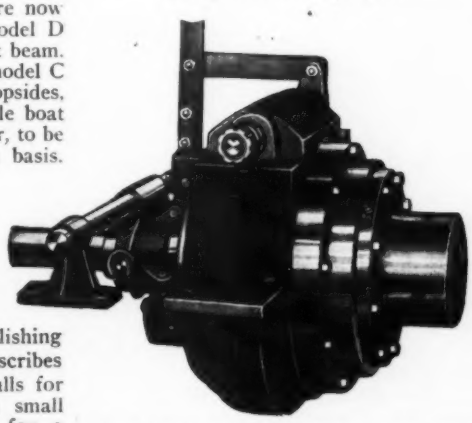
Starting With a Touch

That Ole Evinrude took a great step forward in outboard motor ignition when he adopted the well known Atwater Kent Unisparker with a Hot Shot Battery for his perfected motor, the Elto Light Twin, is most assuredly being attested to by thousands of Elto users, both at home and abroad. It gradually became apparent to the outboard motor father that the stubborn and uncertain starting of the outboard motor—which was fast becoming its chief characteristic—would eventually handicap its progress.

Mr. Evinrude was most determined, therefore, in building his new motor, to absolutely remedy this trouble. In adding the Atwater Kent Unisparker to his perfected light twin motor, a big powerful spark was produced regardless of cranking speed, and this has been the means of entirely eliminating hard uncertain starting.

While this highly efficient ignition system supplies a big and intensely hot spark yet the Unisparker's snappy make and break contact draws so lightly on the battery that it will last a full season and even more. No short-circuit can possibly occur to run down the battery, even by leaving the switch on or in any other way, as the breaker points are always apart except when making the contact during the operation of the motor. By means of this efficient

(*Continued on page 126*)



Joes Husky gear has an 85 per cent reverse speed ratio. The load on the engine with this remains practically constant and gives a powerful back-up to the boat

The Big Opportunity *of the* Motor Boat Industry

By W. H. Fauber

THE big money is made in the manufacturing business by specializing, but very few manufacturers understand or possess in themselves or their organizations the genius in their art combined with the business genius essential first to see their opportunity and second to control a profitable industry. Henry Ford is an example of a Specialty Manufacturer who has the inborn genius to see his opportunities and control a big share of the industry.

Now, the potential commercial boat business which can be standardized is in two kinds of boats—the slow-speed variety and the high-speed types suitable for pleasure, commuting and the various uses to which such boats have not yet been well adapted and for reasons which I will set forth later on.

The slow-speed displacement boat business is a comparatively old and fairly well developed industry in which the small builders are yet an important factor in competition. For this and other reasons the big opportunity today is in specializing in types of high-speed boats adapted to the wants of millions of people who have automobiles and all the conveniences of life and, if they do not happen to live where they can use a boat, many of them spend their summer or winter vacations near the water.

Some of the essential requirements of high-speed boats have been too much ignored or sacrificed to the one idea of speed, and the specialty manufacturer who will produce a type of speed boat which is also practical at slow speeds and seaworthy in emergency will have a great advantage in the commercial field.

A review of motor boat history shows that since the first public introduction of the Fauber V-Plane Hydroplane in Europe in 1908 and in the United States in 1910 at the Larchmont races when Pioneer, designed for the Duke of Westminster, gave a practical demonstration of the advantages of the Hydroplane by running away from the displacement boat Dixie III, the trend of design in speed boats has been toward getting away from the limitations of the displacement hull.

Considering the relative merits of the displacement hull and the hydroplane, the displacement hull becomes more and more inefficient as the speed goes up and, at the same time, less seaworthy and more dangerous because, with the increase of speed, the displacement hull loses stability; whereas the hydroplane grows more efficient with the increase of speed and likewise the factor of stability greater. These fundamental requirements for speed boats—efficiency, stability and safety—unquestionably eliminate the displacement hull and establish the hydroplane as the best type where speed is required.

Hydroplanes pound less on rough water and are more stable and seaworthy by making the planing surfaces a steep-sided V at the bow and flattening this V-section out more toward the stern. This entering-wedge V, steep sides at the bow and flatter toward the stern, gives a stream-line form of the least resistance through agitated water, and, at the same time, the concave V-planes lift most efficiently.

In the various mechanical arts in which planes are used, as for example in airplanes, water and steam turbine blades, air and water propeller blades, the width of the blade, viz., the plane, is always greater than the length in the direction of the stream line; hence V-bottom boats without steps have not the full advantages of the hydroplane principle and do not give the owner the maximum speed of his motor and the most miles out of his gasoline. Boats of this kind ride on the middle like a teeter-board across a fence and the after part of the long bottom does not plane efficiently but drags on the water.

The plain V-bottom is not used in 60-70 mile racing craft because its inefficiency eliminates it in speed contests. Aside from being slow, it pounds excessively at high speeds and is freakish in control. In other words, long unbroken surfaces of contact with the water at high speeds without steps to admit air and break the vacuum are extremely dangerous and uncontrolable because the atmospheric pressure of approximately one ton per square foot of surface area momentarily holds the boat to any direction in which the waves way deflect its course.

Commodore Wood said to me that, at speeds of 70 miles, boats pound so that racing is becoming nerve-racking and unendurable. This goes to show that speed is only one of the essential factors, and that racing contests would be more helpful in perfecting and commercializing speed boats if more attention were given to seaworthy designs which minimize pounding and combine the speed.

Any fair-minded sportsman analyzing the history of racing since the introduction of Pioneer at Larchmont in 1910 must concede that the advance in racing speeds over the displacement boat, Dixie III, has been wholly due to two things: First, the invention of the Fauber V-Planes; second, the improvement in high-speed motors. Airplane motors today weigh two pounds to the h.p., whereas racing motors in the days of Pioneer weighed 10 to 12 pounds per h.p. and would rarely run long enough to win a race. Experimenters have run the gamut of freak planes, such as rounded bottoms, rounded bilges and other impractical ideas, but for maximum speeds, they have come to the characteristic lines of the Fauber inventions.

If we could ignore the necessity of a boat-shaped hull having longitudinal stability and also ignore the problems of rough water, then we could copy after the airplane and design a racing machine with only one plane having a short dimension fore and aft and a greater width of beam, like the airplane wing.

A man buys a fast boat because he wants speed, but what many boat owners would like to have is the combination of a practical slow-speed-high-speed boat. There are always times when time is an object; times when a five or ten mile boat is too slow; times when you cannot go some place because it would take you all day to get there, whereas if you had a 30 to 40 mile boat you could spend one-third of the day at your destination with your friends or fishing. There are times when a fast boat will beat a storm and sea-sickness. There are times when people with sporting blood like to feel the thrills of speed and quietly enjoy letting the other fellows read the name on the stern of their boat.

One of our well-known boat-builders said to me at the New York Motor Boat Show that high speed boats are not practical along the Atlantic Coast waters, and, up to the present date, he is right about this because professional naval architects and boat-builders do not know how to build a practical type of slow-speed-high-speed boat.

Going back to the question of what can be done with speed boats on rough water, I speak from having had experience, and, as one example, I drove a 26-foot hydro-

(*Continued on page* 136)

Gar Wood to Cruise and Race in European Waters

Commodore Gar Wood of Detroit, Speed King of America, Champion of everything that floats, from the Atlantic to the Pacific and from Duluth to Cuba, now announces that next year he will ship one of his Gar Jr. Flyers from his plant at Algonac, Michigan, to England and cruise in all European and Mediterranean waters in his famous express cruiser. This announcement of Commodore Wood's intention to demonstrate the suitability of American built express cruisers in foreign waters is a most important one and an indication of the desire of this real sportsman to keep the possibilities of high speed craft before the entire world.

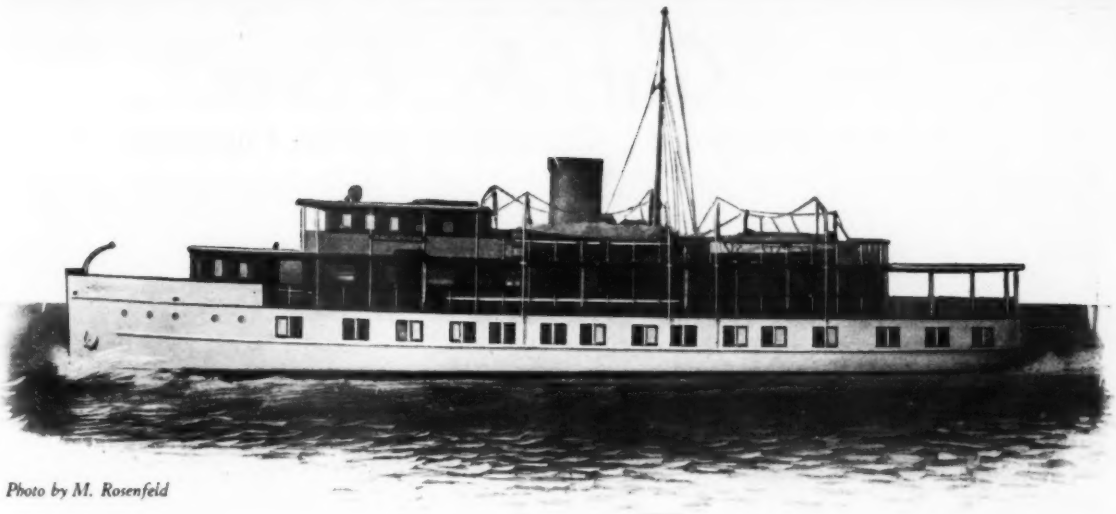


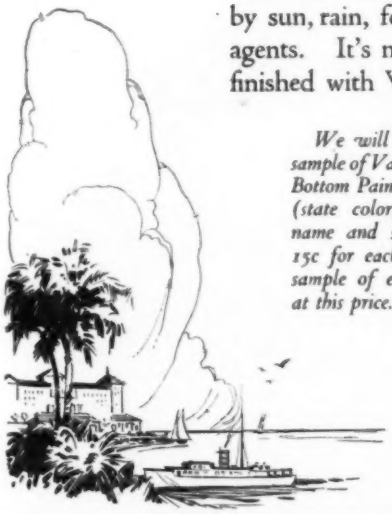
Photo by M. Rosenfeld

Back from Warm Waters—

COMFORT for life on the rolling deep! Spacious saloons and big staterooms, like an ocean greyhound in miniature. "Zalophus" is a house-yacht—a combination of comfort and speed.

And seaworthy! Up and down the coast she takes a steady way. Cape Hatteras in winter didn't even shiver her timbers. She arrived safely and in good time at Sarasota, Florida, where her owner, John Ringling, has a winter home. She will be seen in northern waters during the summer months.

What matter the weather "Zalophus" encounters? She's Gielow-designed and Consolidated-Built. And all her outside bright-work is protected with waterproof, weatherproof Valspar—the varnish that won't turn white. It's the standard varnish for marine uses—absolutely unchanged and unharmed by sun, rain, fog, salt spray, oil, chemicals or other destructive agents. It's natural that a boat like "Zalophus" should be finished with Valspar.



We will send you a generous sample of Valspar, Valspar Bronze Bottom Paint or Valspar Enamel (state color) for your dealer's name and stamps amounting to 15c for each sample. Only one sample of each product supplied at this price.

VALENTINE'S VALSPAR
The Varnish That Won't Turn White

VALENTINE & COMPANY
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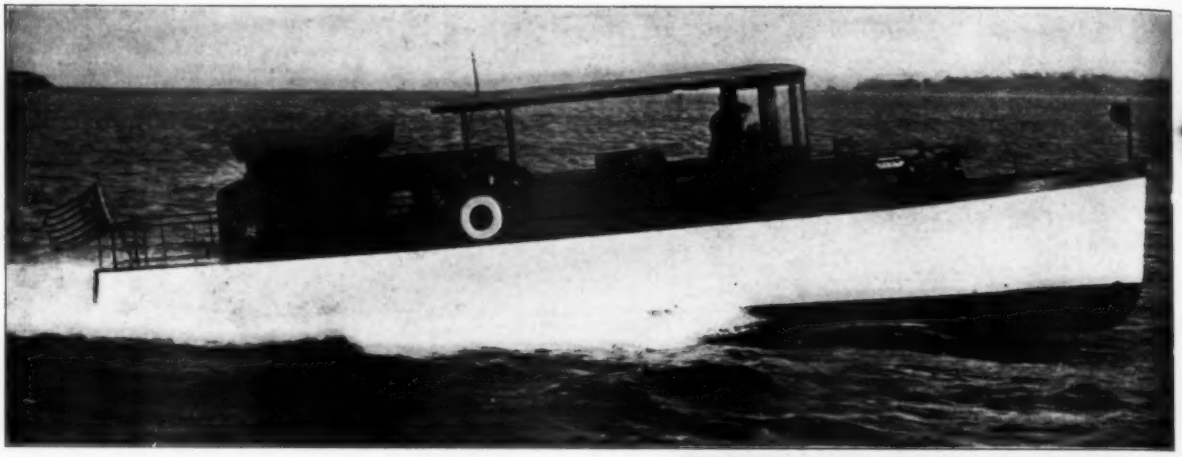
THE "Gar Jr. Flyer"

A New Standardized Guaranteed 30-Mile Commuter



High Speed—Seaworthy Dependable—Low Cost Economical Operation

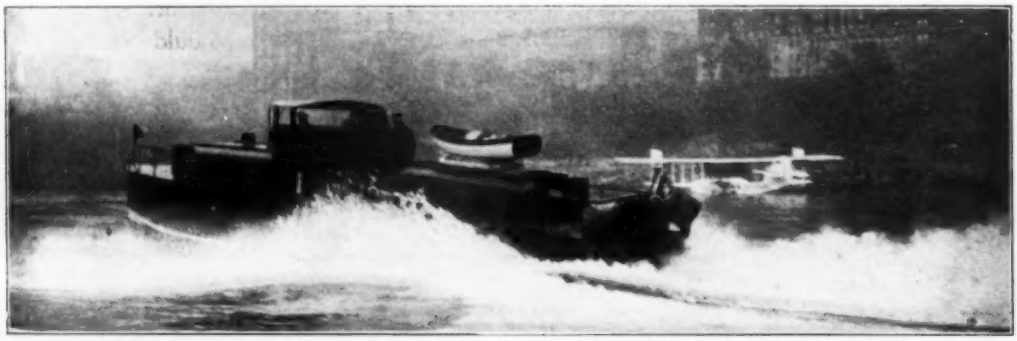
A 50-ft. twin screw motor yacht with sustained high speed, free of vibration, and remarkable seagoing qualities (as demonstrated by GAR JR. II in various long distance ocean races).

OVER 60,000 MILES WITHOUT A BREAKDOWN!

That is the racing and cruising record of the GAR JR. II, holder of cruiser championships, and from which the GAR JR. FLYERS have been developed.

The roomy bridge deck and forward cockpit seat 12 persons.

Power plant consists of two twin-six "Liberty" motors developing 450 H.P. each, perfect in balance and control, absolutely reliable, and practically automatic in operation.



GAR JR. II completing record-breaking run from Miami to New York (outside route)
1260 miles at sea in 47 hours 23 minutes running time (21 min. less than schedule train time of famous "Havana Special")

For price, plans and full particulars, apply to

COX & STEVENS (Exclusive Sales Agents) **25 Broadway, New York**

Telephone: WHITEHALL 2700

Advertising Index will be found on page 138

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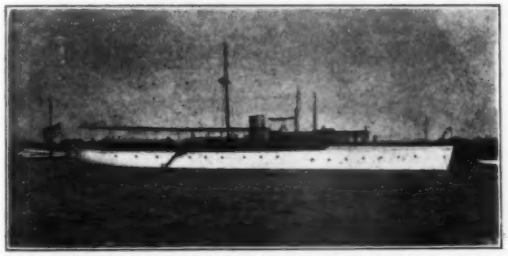
NAVAL ARCHITECTS---MARINE INSURANCE---YACHT BROKERS

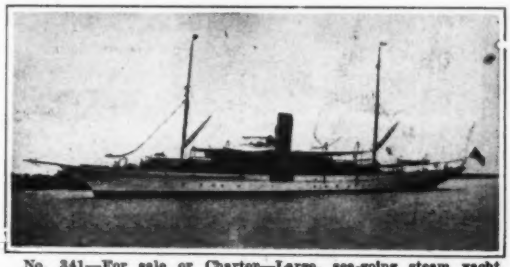
25 BROADWAY, CUNARD BUILDING (Morris Street Entrance), NEW YORK

On this page are shown a few representative yachts selected from our large lists. Should none appeal kindly acquaint us with your requirements. Full information regarding costs to build, purchase or charter yachts of all types gladly furnished.

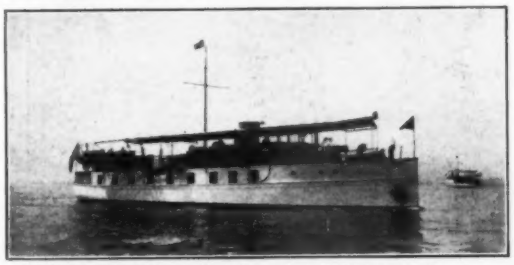
No. 3830—For Sale—The only large, desirable twin-screw Diesel-Motor Yacht available; 145 x 20.3 x 7.6 ft. Built 1920. Speed up to 14 miles; two 250/300 H.P. 6 cyl. Winton-Diesel engines. Splendidly kept up vessel. Handsomely finished; tastefully furnished with the best. Large dining saloon and social hall, also stateroom on deck; five staterooms below aft. Only available as owner is having larger yacht built from our designs. Cox & Stevens, 25 Broadway, New York.



No. 885—For Sale or Charter—Handsome 120′ twin screw steel motor yacht. Exceptionally able. Speed up to 17 miles. Two 225 H.P. 6 cylinder Winton motors. Splendid accommodations: Deck dining saloon, three double staterooms, besides saloon. Our design. Cox & Stevens, 25 Broadway, New York.



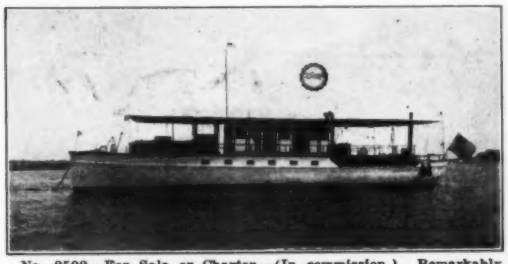
No. 341—For sale or Charter—Large, sea-going steam yacht. Palatial accommodation. Unusual opportunity. Several similar larger and smaller available craft. Cox & Stevens, 25 Broadway, New York.



No. 1662—For Sale or Charter—Attractive 90-ft. modern power houseboat. All the comforts of a country home. Large saloon, four staterooms, two bathrooms, handsomely furnished. Cox & Stevens, 25 Broadway, New York.

No. 979—Exceptional Bargain—98 ft. Lawley built twin screw cruising power yacht. Speed up to 16 miles. Standard motors. Deck dining saloon, three double and one single staterooms, two bathrooms, etc. Teakwood deck house and deck trim. Cox & Stevens, 52 Broadway, New York.

No. 3737—For Sale—Fast 52 ft. bridge deck cruiser. Speed 15 miles. 125 H.P. Sterling motor. Double stateroom, saloon, galley, toilet room, etc. Construction of best. Excellent condition. Price reasonable. Cox & Stevens, 25 Broadway, New York.



No. 2502—For Sale or Charter—(In commission.) Remarkably roomy twin screw semi-houseboat cruiser, 73′ x 16.6′ x 3′. Speed 11 miles. Two 20th Century motors (new 1922). Saloon and stateroom with double berth in deckhouse. Below forward are main saloon, two double and one single staterooms, shower bath, toilet, also dining saloon. Available at attractive figure. Cox & Stevens, 25 Broadway, New York.

PLANS, PHOTOGRAPHS AND PRICES ON REQUEST

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ENGINEERS
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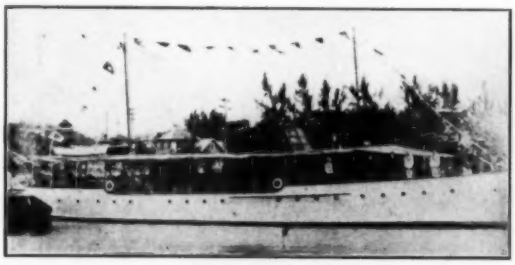
Tel.: Murray Hill 9134
Cable Address:
Crogie, New York
A.B.C. Code

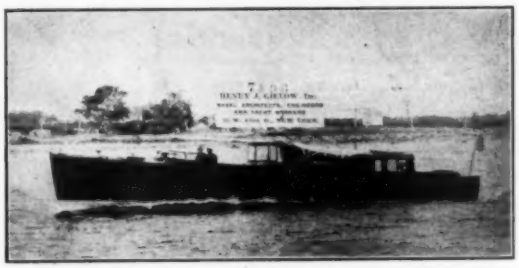
Plans and specifications for new yachts of any size or type should be prepared now to assure delivery for next year. Have plans of new yachts, all types, on file now.

We have a most complete and up-to-date list of steam and motor yachts of all sizes, sail, auxiliary, and houseboats, on file in our office, kept constantly up-to-date by a thorough and comprehensive canvass of the entire yachting field from time to time. We are in a position to submit full information on any type of boat, upon request.



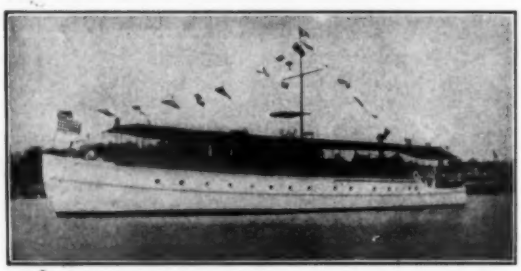
No. 7866—For Sale—Florida Delivery—Ninety-five foot twin screw, modern, up-to-date yacht, specially adapted for Florida cruising; just returned from cruise to Cuba; big bargain. Full particulars upon application to H. J. Gielow, Inc., 25 West 43rd St., New York City. Telephone: Murray Hill 9134.

No. 7047—For Sale—Eighty-four foot twin screw, high speed ferry cruiser, specially designed for this work. Sterling Engines, speed up to 30 miles per hour. Double planked hull in splendid condition. Big bargain. Act quick. Full particulars upon application to H. J. Gielow, Inc., 25 West 43rd St., New York City. Telephone: Murray Hill 9134.

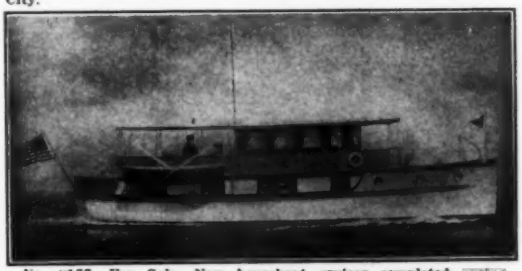


No. 7896—For Sale—Most attractive sedan day cruiser. Gielow designed. Lawley built, mahogany planked, Speedway engines, 18 mile speed, used but very little, price attractive. Further particulars furnished upon application to H. J. Gielow, Inc., 25 West 43rd St., New York City. Telephone: Murray Hill 9134.

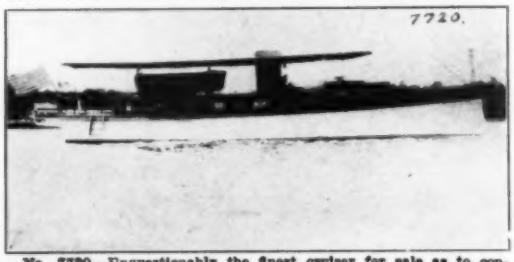
No. 8100—For Sale—Commodious steam oil burning houseboat. Would make fine commercial boat for passengers and freight. Economical to operate. 100′ x 23′ x 7′; speed 9 miles. Has six staterooms, large deck house. Very heavy strong construction, completely equipped, four boats. Entirely overhauled 1922 and in fine condition. Henry J. Gielow, Inc., 25 West 43rd St., New York City.



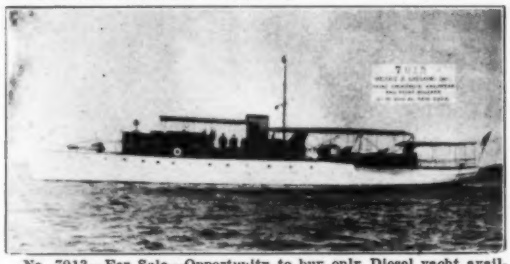
No. 8067—For Sale or Charter—Desirable twin-screw cruising houseboat suitable Florida and Northern waters. 88 ft. x 19 ft. x 3 ft. 6 in. 20th Century motors. Boat entirely overhauled and refitted 1920, three double and one single staterooms, saloon, deck saloon, sleep 8. Electric light and heating plants new 1920. Bath, two toilets. Has cruised Florida each year, good sea boat. Reasonable. Henry J. Gielow, Inc., 25 West 43rd St., New York City.



No. 8177—For Sale—New houseboat cruiser completed spring delivery. 48 ft. x 13 ft. 6 in. x 3 ft. One double, one single stateroom, large saloon with two berths and deck saloon 12 ft. x 8 ft., sleeps six. Crew stateroom forward. Heavy construction, finished mahogany and cream enameled. Delco lighting plant. 40-50 H.P. 20th Century engine. All best workmanship. Speed 9-10 miles. Popular type for Florida and Northern cruising. Price reasonable based on present reduced building cost. Henry J. Gielow, Inc., 25 West 43rd St., New York City.



No. 7720—Unquestionably the finest cruiser for sale as to construction, finish, completeness and accommodations for size. 54′ x 11″ 4 x 3′ 3. Never in Government service. 50 H.P. Twentieth Century motor overhauled Fall 1922. Speed 12 miles. All deck trim and interior teak and mahogany. Equal new. Double stateroom and saloon sleep 4-6. Large galley, crew quarters and engine room, all full headroom. Offered at half cost of duplicating. Owner gone abroad. Henry J. Gielow, Inc., 25 West 43rd St., New York City.



No. 7013—For Sale—Opportunity to buy only Diesel yacht available at reasonable price. 110′ x 18′ x 6′ 6″. Copper sheathed, heavy construction, an able seagoing yacht in fine condition. Three large airy staterooms, bath, deck saloon. Two 6 cylinder Diesel motors at speed 10 knots fuel consumption. Cost sixty cents per hour. 2500 mile radius. Electric fans, screens, ice machine, three toilets. Has twice cruised West Indies, last one made 1922. Entirely overhauled. Henry J. Gielow, Inc., 25 West 43d St., New York City.

Advertising Index will be found on page 138

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NAVAL ARCHITECTS AND YACHT BROKERS

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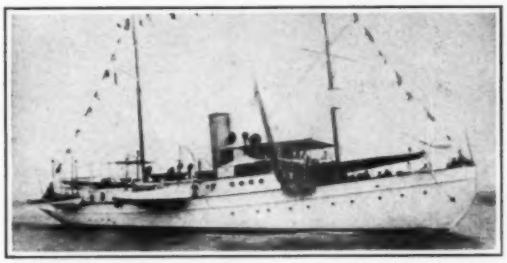
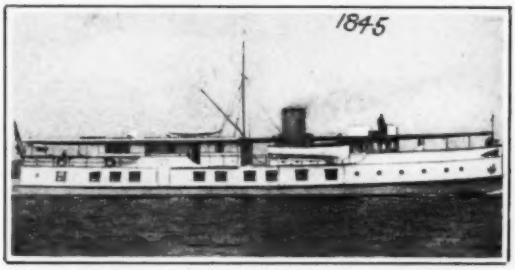
OFFER ALL OF THE DESIRABLE YACHTS AVAILABLE FOR SALE AND CHARTER, SOME OF WHICH ARE ILLUSTRATED BELOW

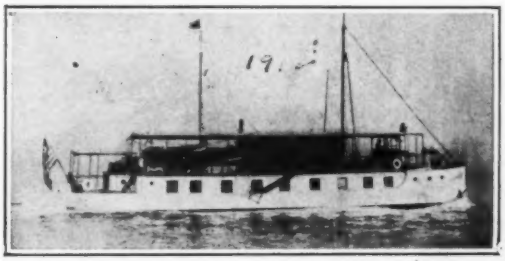


No. 26E—Sale—Ocean-going steam yacht—158′ x 127′ 7″ x 24.8′x 12′ 9″ draft. Built 1913. Commodious owner's accommodations—Completely and thoroughly overhauled, refitted and refurnished under our supervision in Fall 1920.

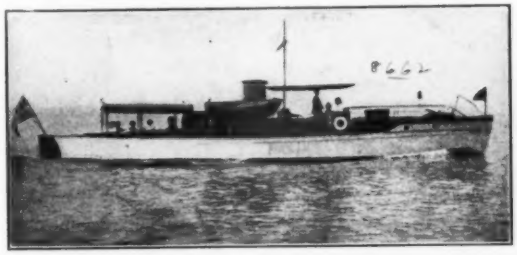


No. 1845—Sale—Modern Triple Screw Houseboat—120′ 9″ x 21′ x 3′ draft. Designed by Tams & King and built in 1920—3 Meitz & Weiss Oil Engines—6 staterooms, 4 bathrooms, dining saloon, deck sitting room, etc.

No. 8150—For Sale—Price attractive—110′ single screw off-shore motor yacht, 6 cylinder, 220 H.P. Standard motor. Three staterooms, two being double, saloon and sitting room, bathroom, galley, engine room and crew's quarters. Inspectable New York waters.

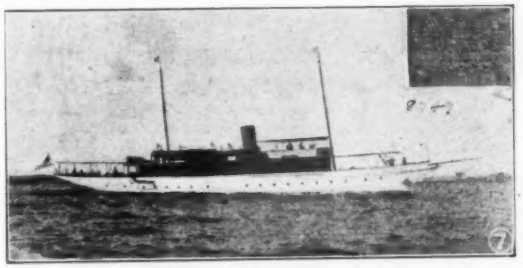


No. 1912—Sale—Charter—Attractive 77′ Houseboat—2-50 H.P. Standard Motors—Speed 11 miles—4 staterooms, dining saloon, deck saloon and 2 bathrooms.

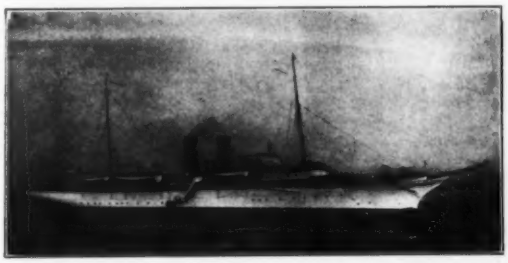


No. 8662—Price reasonable. Twin screw 60′ fast cruiser. Two 90 H.P. Sterling motors. Inspectable Maine waters.

No. 8978—For Sale—Raised deck semi-day cruiser. 200 H.P. Sterling motor. Speed 20 miles per hour. In the very best of condition. Price reasonable.



No. 8749—For Charter—Largest motor yacht available for charter, 154′ x 20′ x 7′ draft. Two 200 H.P. Winton motors. Six owner's staterooms, four bathrooms, maid's room, dining, music and sitting room.



No. 145—For Sale—Charter—Price attractive, fast twin screw ocean going steam yacht, 252′ overall, 28′ 6″ beam and 14′ draft. Nine staterooms, seven bathrooms and six saloons. In good condition and fully equipped.

$10,000

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Vanderbilt 0596

RIGG'S YACHT AGENCY

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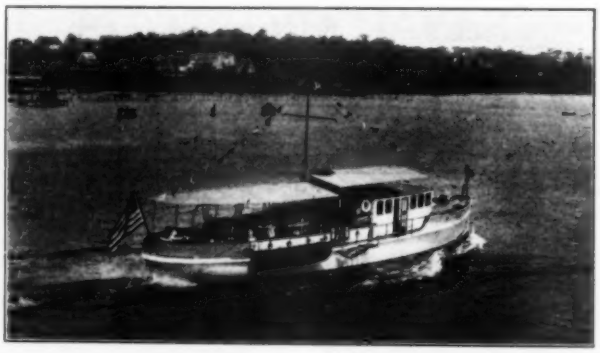
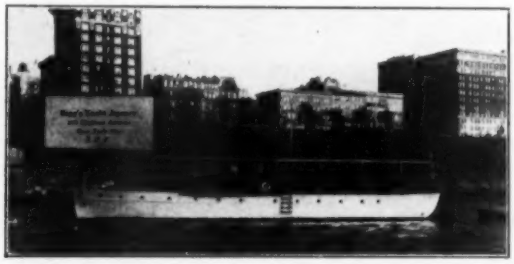
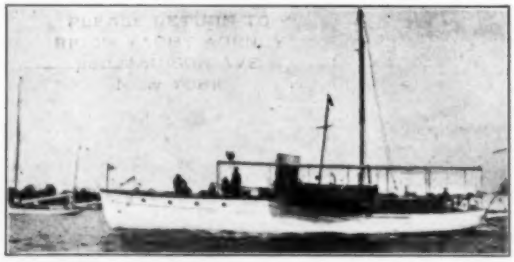


No. 776—For Sale or Charter—Cruising power boat with all the comfort and accommodations of a houseboat. Two double and one single staterooms. Large saloon. Two bathrooms complete with tubs and showers. Hot and cold running water. Double bed in owner's stateroom. Electric fans throughout. Large dining saloon with galley in deck house. Sterling motors. Boat is fitted out in most luxurious style and must be seen to be appreciated. Owner will furnish and pay crew and insurance and charter for very low rate. Apply Rigg's Yacht Agency (sole agents), 350 Madison Avenue (at Forty-fifth Street), New York City.

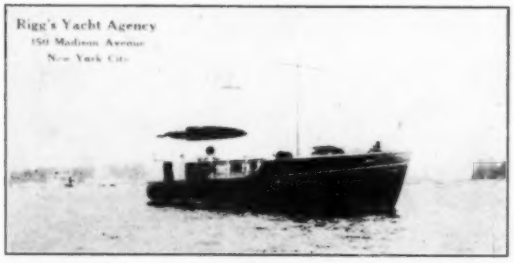


No. 309—For Sale—Flush deck power cruiser of most modern type. Designed and built by Nock in 1920 and is as good as a new boat. Dimensions are 70' O. A., 13' beam, 4' draft. Winton engine, 125 H.P., new 1920. Speed 12-14 M. P. H. Two double and one single staterooms, bathroom, two toilet rooms, saloon and deck house. Can be run with very small crew. Owner most anxious to sell. Apply Rigg's Yacht Agency, 350 Madison Avenue (at Forty-fifth Street), New York City.

No. 758—For Sale—40' Express runabout, with coupe cabin forward. Built by Consolidated Shipbuilding Corporation. Dimensions, 40' x 8' x 3'. Speedway motor, 150 H.P. Fitted with electric starter and controlled from the wheel. Speed 23 M. P. H. For price, particulars, etc., apply to Rigg's Yacht Agency, 350 Madison Avenue (at Forty-fifth Street), New York.



No. 322—For Sale—Bridge deck power cruiser. Dimensions, 63' x 14' x 4'. Designed and built by Nock in 1914. One double and two single staterooms. Bathroom and two toilets. Speedway engine, 80-115 H.P. New in 1922. Fitted with self starter. Owner has spent over fifteen thousand dollars ($15,000) on boat in the last year in new equipment and she is in as good condition as a boat could possibly be. Very pretty lines, and is fine sea boat. For price, particulars, etc., apply to Rigg's Yacht Agency, 350 Madison Avenue (at Forty-fifth Street), New York.



No. 712—For Sale—Very desirable power cruiser. Raised deck type. Dimensions, 43' x 10' x 3'. Designed and built by Nock in 1909. Double stateroom and saloon with two double berths. Large light airy cabin. Well furnished and very attractive. Has 40 H.P. Lathrop engine in first class condition. Electric lights throughout. Inventory very complete. Owner has just purchased a larger yacht from us and will sell this boat at a sacrifice price for a quick sale. For full particulars, apply Rigg's Yacht Agency, 350 Madison Avenue (at Forty-fifth Street), New York.

Advertising Index will be found on page 138

YACHT BROKERS
NAVAL ARCHITECTS

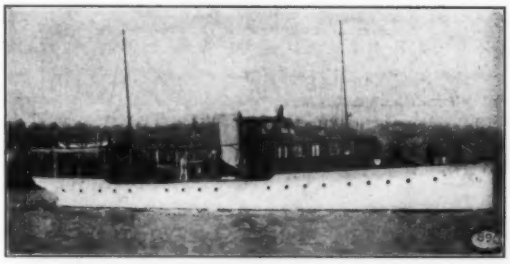
Henry C. Grebe & Co., Inc.

MARINE INSURANCE
SURVEYING

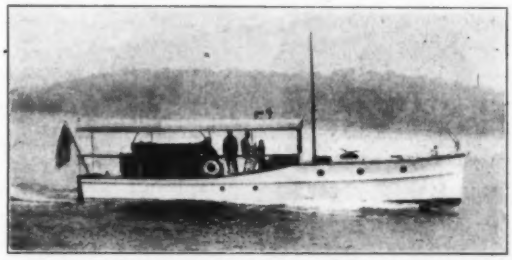
6 NORTH MICHIGAN AVE., CHICAGO

TELEPHONE CENTRAL 1261

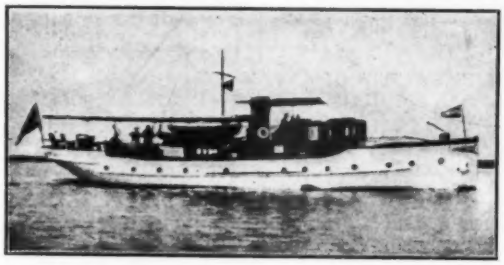
We have a complete list of all steam and power yachts, auxiliaries, and houseboats, which are for SALE and CHARTER. Plans, photographs and full particulars furnished on request.



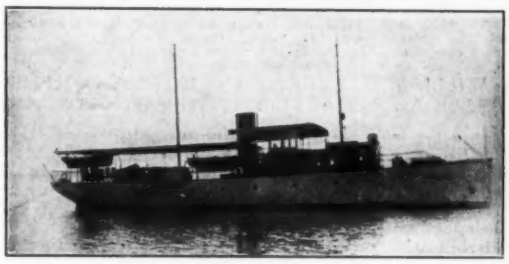
No. 890—For Sale—Modern 95 ft. twin-screw motor yacht. Speedway motors. Speed 12 to 14 miles. Deck dining and music saloon, four staterooms, bathroom and all modern conveniences. Large deck space. Handsomely furnished. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



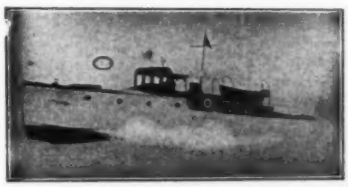
No. 1024—For Sale—45 ft. V-bottom bridge deck power cruiser. Sleeps 6-8 in owner's quarters. Has double stateroom with separate toilet. Good galley, large deck space. Powered with a 6 cylinder Sterling. Speed up to 15 miles. Excellent condition and completely equipped. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



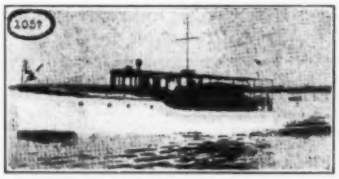
No. 560—For Sale or Charter—75' x 14' x 4' 6" gasoline cruiser built 1915. Sterling powered. Very able seaboat, excellent accommodations below and on deck. Has deck dining saloon, two large staterooms, large main saloon and bathroom. Located Great Lakes. Reasonable price. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



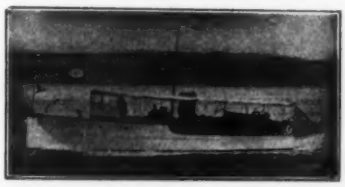
No. 584—For Sale or Charter—90 ft. twin screw cruiser. Recent build and modern design. Winton motors. Speed up to 14 miles. Dining saloon on deck. Five staterooms, etc. Attractively furnished and in excellent condition throughout. Located Great Lakes. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



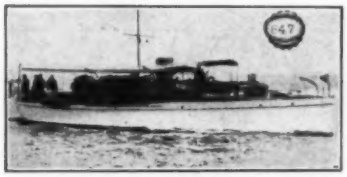
No. 1018—For Sale—54 ft. Great Lakes express cruiser. Speed 20-25 miles per hour. Double stateroom and large main saloon. Two toilets and shower bath. Well equipped and in excellent condition. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



No. 1057—For Sale—Twin screw. New 1921. 50' x 12' x 3'. Very complete and in excellent condition. Sleeps six comfortably in owner's quarters. Has comfortable deckhouse and roomy after deck. Reasonable price. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



No. 1019—For Sale—60 ft. twin-screw express cruiser. Excellent seaboat. Speed up to 22 miles per hour. Accommodations excellent. Price reasonable. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



No. 847—For Sale—68 ft. power cruiser. Built 1916 by Lawley. Three staterooms. Excellent condition. Winton motor. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

No. 548—For Sale—Attractive bridge deck power cruiser. 65 ft. x 13 ft. x 4 ft. 8 in. draft. Thoroughly modern and splendid seaboat. Bargain for immediate sale. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

No. 1082—For Sale—45 ft. hand design V-bottom cruiser. Practically new. Built of solid mahogany, natural finish. Large, partly enclosed bridge deck, double stateroom aft, four berths in main cabin, two toilets. Attractively furnished and in excellent condition. Very seaworthy. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

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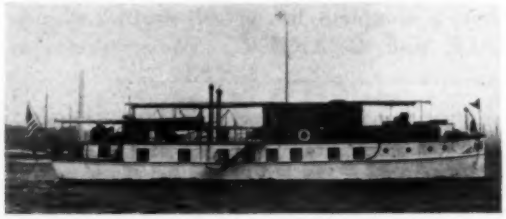
No. 1852—Twin screw power yacht, 95' x 16' x 4' 6"; built 1917; two 6 cylinder Winton motors; flush deck type, with continuous deckhouse. Splendid boat for Southern waters. Best possible condition.



No. 56-H—Twin-screw 75-ft. power houseboat; Standard motors; dining saloon, music room, 4 staterooms, etc. Mahogany finish and finely furnished.

No. 1949—Able raised deck cruiser, 62' x 12.9'; new 8 cylinder Sterling motor. Speed 13½ miles. Single and double stateroom, main saloon, etc. In first class condition.

No. 2386—High grade express cruiser, 54' x 11.2'. Built 1917. Eight cylinder 200 H.P. motor. Speed 12-15 miles. Independent electric plant. Good cruising accommodation. First class condition.

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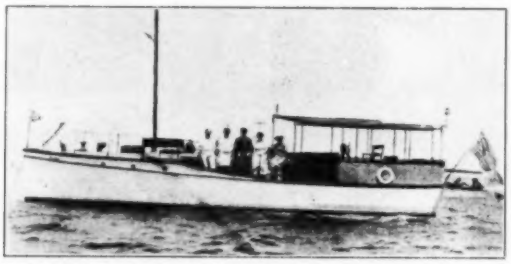
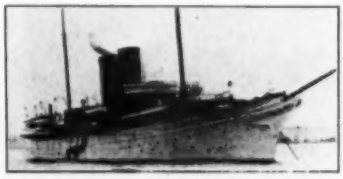
Communicate with this office. Personal attention, prompt service and a complete list of yachts of all types offered.

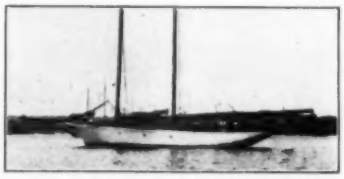
No. 1295—For Sale—Very attractive 54' cruiser; one double stateroom and saloon. Speed 12 miles. This yacht is of the highest type of construction, beautifully furnished and finished. We can recommend her as being one of the best boats of her length afloat.



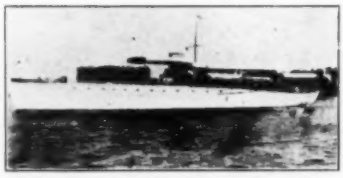
No. 1015—For Sale—43' cruiser; one double stateroom and saloon. Equipped with 60 H.P. Sterling motor. Speed 14 miles. Wind shield added in 1922. A very fine and seaworthy craft in the best of condition.



No. 1218—For Sale or Charter—Ideal for trip around the world. 262' steam yacht. Nine staterooms, etc. One of the handsomest yachts afloat.



No. 1561—For Sale—60' auxiliary schooner in best of condition. Sleeping accommodations for eight persons. Seaworthy and excellent lines. Has had the best of care.



No. 759—For Sale—110' modern Diesel powered yacht. Three commodious staterooms. In best of condition. Ideal for extended cruising. Very economical to operate.

Advertising Index will be found on page 138

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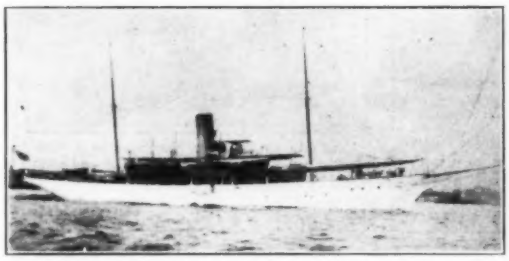
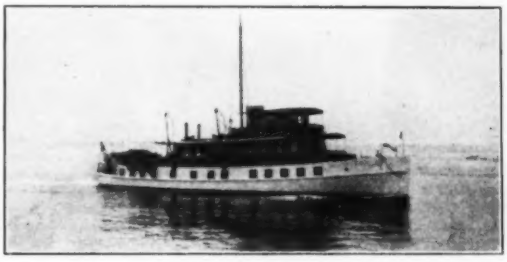


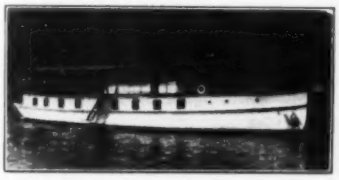
No. 5620—For Sale or Charter—195 ft. seagoing steel steam yacht. Classed A1. Best design and build. Splendid vessel. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.



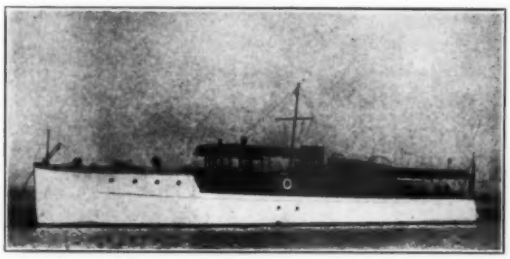
No. 289—For Sale or Charter—100 ft. power house yacht. Built 1920. Winton motors installed 1923. Most seaworthy yacht of this type. Dining saloon, seven staterooms, three baths. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.

No. 1888—For Sale—52 ft. bridge deck cruiser in excellent condition. Two cabins, large cockpit aft. Sterling motor. Speed 12-16 miles. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.

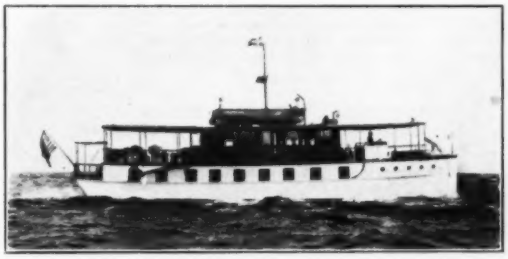
No. 5523—For Sale—60 ft. gas cruiser. Best design and build. 20th Century motor. Saloon with two berths, single and double stateroom, bath. 12 miles. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.



No. 5089—For Sale or Charter—85 ft. twin screw power houseboat; 20th Century motors. Excellent accommodations, consisting of five staterooms and three baths. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.



No. 1234—For Sale—Great Lakes 76 ft. twin screw express cruiser. Saloon, two double staterooms and bath. Engines new 1922. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.



No. 2266—For Sale—New Mathis 75 ft. power house yacht with two saloons, four staterooms and two bathrooms. Two Speedway motors. Speed 12-14 miles. Frank Bowne Jones, Yacht Agent, 25 Broadway, New York.

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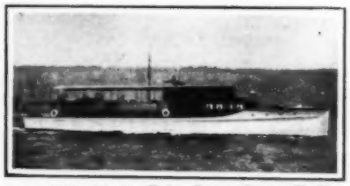
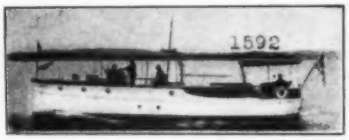
No. 2399—54 ft. Twin Screw Express Cruiser. Double stateroom, main cabin with two upper and two lower berths. Two toilets and shower. Two berths and toilet for crew. Two 150 H.P. Van Blerck motors. Speed 22-24 miles.

No. 2254—55 ft. bridge deck cruiser. Two double staterooms, main saloon, two toilet rooms. Two berths and toilet for crew. Sterling Motor. Speed 13-14 miles. Electric lights, etc. Splendid proposition.



No. 2039—80 ft. Twin Screw Power Yacht. Three staterooms; Saloon and Dining saloon. Two toilets and bath. Two 230 H. P. Motors; Speed 18 miles. Electric lights, etc. Splendid proposition.

No. 2014—70 ft. Twin Screw Express Cruiser. Three staterooms, main saloon, etc. Splendid seaboat. Speed 20-25 miles. Price attractive.



No. 1592—45 ft. bridge deck cruiser. Double stateroom, four berths in main cabin; one in engine room. 45 H.P. motor. Speed 10-11 miles. Electric lights, etc. Splendid proposition.

No. 2359—50 ft. Twin Screw Express Cruiser. V Bottom; Double planked mahogany and teak. Two 200-225 H. P. Sterling Motors; Speed 30-32 miles. Ideal for ferry service.

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These Engines are NEW and NOT rebuilt

1—20-24 H.P. 2 cylinder Peerless, with reverse gear and magneto...$475.00

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1—16 H.P. 2 cylinder Frisbie, with reverse gear and magneto..... 450.00

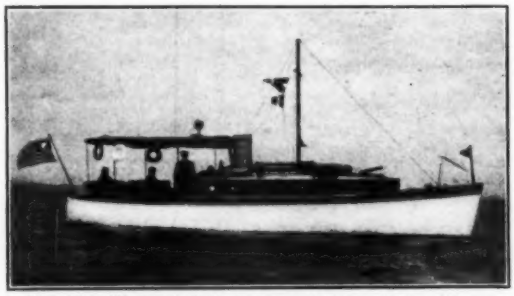
2—10 H.P. 2 cylinder Frisbie, with reverse gear and Atwater Kent ignition 350.00

3—1 cylinder 2½ H.P. Caille motors, with carburetor oil cups, shaft coupling and spark coil..... 75.00

1—1 cylinder 2 H.P. Caille Bantam magneto model, canoe motor..... 50.00

(These prices hold only while the above stock lasts)

THE BURROUGHS-McMEEKIN CO.
Jacksonville, Fla.



Attractive 40′ Trunk Cabin Cruiser, 10′ beam, 3′ draught, powered with 1-24-30 H.P. 4 cycle, 4 cylinder Regal engine. Speed 8 to 10 miles per hour. Interior finish white enamel, complete galley, toilet and wash room, running water, electric lights, etc. Must be seen to be fully appreciated. Inspection at New York. Box 67, MOTOR BOATING.

31′ x 8′ x 2′ 6″ copper fastened and mahogany trim hull of excellent design and very best construction and condition. Full headroom. Five berths. Motor 24 H.P. Palmer, 4 cylinder, 4 cycle. Practically new. Excellent value. $2750. Wm. C. Atwater, Jr. owner, 1 Broadway, New York City.

Advertising Index will be found on page 138

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RELIABILITY, ECONOMY, DURABILITY and QUIETNESS of OPERATION are some of the things you purchase in one of our Rebuilt Marine motors, sold with an IRON CLAD GUARANTEE at about 50% of the new price.

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An unusual opportunity to buy at a bargain price one of the most successful of the Middle West Racers. A single-step hydroplane powered with a 400 h.p. motor, "Century Tire" proved the sensation of the mid-winter New Orleans regatta.

FOR FULL INFORMATION AND PRICE WRITE:—

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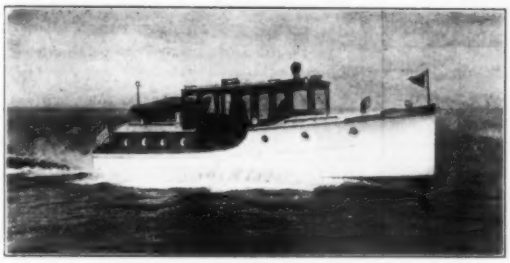
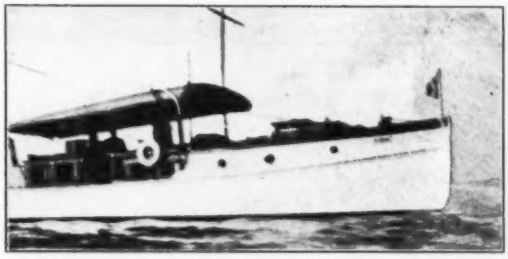


For Sale—One of Rochester's high grade enclosed bridge 40' cruisers. Built in 1920 and equipped with 6 cylinder G. R. Sterling motor. Finest 40-footer afloat. Cost $14,000, will sell for $7,500. In water at Rochester. Write for complete data. Rochester Boat Works, Inc., 10 Charlotte St., Rochester, N. Y.

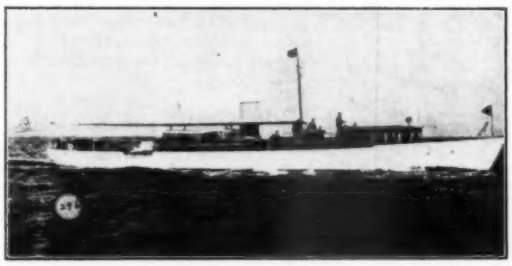


Firefly, 36' raised deck cruiser, one man boat, bridge controls, two cabins, four berths, electrically lighted and started; perfect condition in all respects. A. J. Patterson, 58 West Forty-seventh Street. Bryant 1681.

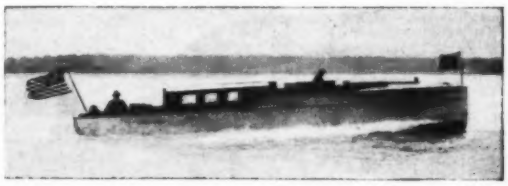
For Sale—A 50' x 14' stock houseboat of the seagoing cruising type, powered by a heavy duty 5" x 6½" "Buffalo" engine, price $14,000. This boat is a stock model built from our designs and similar to the well-known "Bedouin III." The interior partitions have been omitted, so that the boat can be finished up to suit the arrangement desired by the purchaser. The stock arrangement similar to the "Bedouin III" gives three single staterooms, one double stateroom, bathroom and large dining saloon on deck. The boat complete with awnings, dinghy, davits ready to run for $14,500. J. Murray Watts, 136 South Fourth Street, Philadelphia, Pa.

FOR SALE—Number of high grade new and complete lighting plants at the lowest price ever quoted for an outfit of this character. Capacity ¾ K.W., 32 volts with 90 ampere hour storage battery. Has water cooled engine, with ball and roller bearings. Generator designed especially for this unit. Particularly suitable for cruisers and yachts because the plant is unusually small and compact and is water cooled. Original price was $450. Built by one of the most prominent and successful manufacturers of lighting plants. Write today for full description and prices. Special discount on quantity orders. Box "68," MoToR BoatinG.

Wanted—One used motor boat, as good as new, or a new one that will be ready to go into service for early navigation on the Great Lakes, to be used as a ferry passenger boat, between Munising and Grand Island, Michigan, on Lake Superior. 50 to 60 feet over all, 14 to 15-foot beam, speed not less than 12 miles per hour, to seat under cover in the main cabin at least 25 to 30 people. Prefer one with oil-burning engine of the Diesel type. Must have toilet facilities. Independent lighting system. Parties answering give price and photographs or blue prints, addressing Mr. C. V. R. Townsend, Land Agent, Negaunee, Michigan, care The Cleveland Cliffs Iron Co.



No. 296—For Sale by Estate—Handsome 100' Lawley-built, twin screw cruising power yacht. Speed 13-15 miles. Powered with two 125 H. P., 6 cylinder Winton motors. Accommodations include deck dining saloon forward, two double staterooms, main saloon and two toilet rooms below aft. Large after deck. Independent lighting plant. Has had thorough upkeep and in excellent condition. Handsomely finished and furnished. Low figure will be accepted for immediate disposal in order to close Estate. For further particulars apply to Cox & Stevens, 25 Broadway, New York. Telephone 2700 Whitehall.



Hacker designed and supervised the construction of this 42'-0" x 8'-6" V bottom cruiser. Van Blerck 6 cylinder motor. Boat and motor in perfect condition. Motor just overhauled. Boat brass fastened throughout. Has bronze shaft, rudder and strut. Speed on measured course in race, 23.1 miles per hour. Can be purchased reasonably.
E. O. Marty 517 Ashland Avenue, Detroit, Mich.

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during our fifteen years in business has a Masters-Rebuilt engine come back with a kick, although we guarantee them in every way and have the responsibility to make good if necessary. If you want a good serviceable power plant at the lowest cost, an engine that looks and runs like new, ask us. All sizes, all makes.

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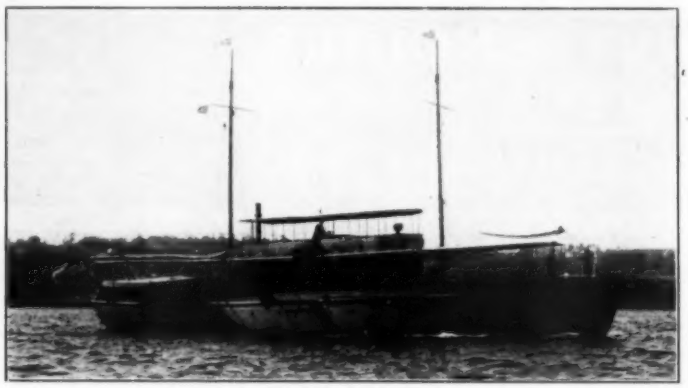


For Sale—Lounger II, 95 ft. cruising motor yacht, beam 17 ft., draft 4 ft. 6 in. Very heavy construction for offshore cruising. Speed 12 miles. Large deck house, bridge over, owner's quarters forward below deck, two double and two single staterooms, one owner's bath, one toilet, galley, motor room and crew's quarters aft. 220 H. P. Standard engine. Lighting plant, two Speedway mahogany tenders. Condition throughout first class. Owner building new yacht. Information furnished by John H. Wells, 52 Vanderbilt Ave., New York. Phone: Vanderbilt 9307.

No. 822—For Sale—The ablest seagoing cruiser of size available. 46 o. a., 11.3 beam, 3.9 draught. Lawley's best workmanship and finish. Commodious cabin for three people; extra berth and w. c. for crew. 40 H.P. Murray & Tregurtha motor. Speed 10 miles. Luxuriously appointed and equipped. Whole outfit guaranteed good as new. Unusual opportunity to secure "real" craft capable of any sort of cruising and maintained with one paid hand, at very attractive price for immediate sale. Inspectable within hour from New York. Full particulars from Simon Fisch, Yacht Broker, 185 Madison Avenue, New York. Ashland 6138.

For Sale—New and rebuilt marine engines. Write for list of bargains. Anderson Engine Co., 4032 No. Rockwell St., Chicago, Ill.

Sell 48' x 9' raised deck, seaworthy cruiser, in excellent condition. Palmer engine. Modern conveniences. $3,400. Rieger, 521 West 151st Street, New York City.

Get our low priced motor and accessories list, 3 to 150 H.P. Jesiek Boat Company, Grand Rapids, Michigan.

FOR SALE—2 cylinder 2 cycle Ferro engine, magneto and standard gear, shaft, propeller and stuffing box. Reasonable. Also 30½' cabin cruiser in fine condition. Mark O. Whitney, 45 East Street, Hartford, Conn.

For Sale—Cabin cruiser ,raised deck type, hand design, V bottom, 32' x 8' 10". Speed 13 miles per hour. White cedar planking, oak framing, copper fastened throughout, solid mahogany trim, cabin sheathed, white enamel, complete electric equipment, toilet, galley, large cockpit, awning, side curtains, Scripps D-4 motor, electric starter, dual ignition, high class guaranteed job throughout, complete, run less than 400 miles. Built last winter by master boat builder. Price $2500.00. Invite inspection. Owner Geo. W. Bach, care of Union Iron Works, Erie, Pa.

TRIMOUNT WHISTLE BLOWER OUTFITS
Friction contact with engine flywheel.
3 sizes.

TRIMOUNT ROTARY HAND BILGE PUMPS
All bronze composition. Suction lift 6 to 20 feet.
3 sizes.

A tremendous success—a high-speed, *bronze* Power Pump for $15.00
TRIMOUNT ROTARY POWER CO.
294 Whiting Ave., East Dedham, Mass.

36 FT. CABIN LAUNCH FOR SALE

The Metropolitan District Commission offers for sale a Lawley cabin power boat, 36' x 8', equipped with a Buffalo 40 to 60 H.P. Engine and usual fittings. The boat may be seen where now stored at the Lawley Yards, Neponset. Further information may be obtained at the office of the Metropolitan District Commission, 1 Ashburton Place, Boston.

FOR SALE

Displacement Speed Boat "FALCON II"

(Winner of The National Trophy 1922)

Length ..... 32 feet 7 in.
Beam ..... 7 feet 1 in.

Built at Albany, N. Y., by Albany Boat Corporation.

Motor, 200 H.P. Hall-Scott Marine (Type L. M.-6).

Motor installed amidships between cockpits.

Has TWO (2) cockpits, forward cockpit seating SIX (6) persons and the after cockpit seating FOUR (4) persons. Boat is controlled and operated from the forward cockpit. Both cockpits are equipped with windshields.

Motor overhauled in the Fall of 1922, and is as good as new.

Hull is constructed of white mahogany and trimmed with red mahogany inside of hull. Hull is copper fastened.

Completely equipped with self starter, electric lights, ventilators and fittings and finely upholstered.

Price $5500.00.

The boat is now at Lake George, N. Y., and can be seen by applying to owner, JONATHAN MOORE, Suite 1303, No. 25 Broadway, New York. Telephone Bowling Green 10228.

Advertising Index will be found on page 138

"Faust"—30 ft. Express Sedan, 25 to 30 miles per hour. Mahogany top. Elaborately equipped, electric lights, self-starter. 8 cylinder motor. Will sacrifice to immediate purchaser. Matthews, 246 Westland Street, Hartford, Conn.

FOR SALE—30 H.P., 5 x 7, 4 cylinder, 4 cycle valve in head "Ralaco," 450 R.P.M. In good running condition, with clutch, air pump, Bosch magneto, coil and switch. Price $500.00 F. O. B. Charleston. Crated. Ashley Halsey, P. O. Box 549, Charleston, S. C.

WANTED—Semi-Speed boat, guaranteed speed not less than 20 miles per hour. Oak frame, mahogany hull, mahogany finished deck, four or six cylinders, engine not less than 75 to 125 horse power. Delivery at any point on New Jersey coast. Harold A. Buzby, 21st and Clearfield Sts., Phila., Pa.

For Sale—Peter Pan II, a beautiful 28-foot mahogany speed boat, built for James Simpson, under whose colors she became famous. Has been out of commission four years and is in very good condition. Equipped with a 135 H.P. Sterling engine, electric starter, etc., in first class shape. Boat cost over $4,000 when new and will be sacrificed at $1,200. For full particulars address Box 5, Moriches, Long Island.

WE HAVE FOR SALE

No. 1 Fast Sedan Express Cruiser, 40' x 8'; practically new. Six cylinder Van Blerck. Speed 25 miles. Price $6,000.
No. 2 Express Cruiser, 40' x 10'. Speed 18 miles. Two four cylinder Elco Engines. Sleeps four, galley, table, toilet and complete to the last detail. One year old. Excellent condition. Price $6,500.
No. 3 Cabin Cruiser, 32' x 8'. Guaranteed to be in good condition. Comfortable fishing cockpit. Reliable two cylinder Lathrop motor. 16 H.P. Speed 10-12 miles. Price $2,500.
No. 4 Large, roomy day cruiser, 42' x 10'. Sleeps four. Galley, toilet, etc. Four cylinder, 20 H.P. Sterling. Speed 8 miles. Will sacrifice for $1,600.
No. 5 Cabin Cruiser, 26' x 8'. Two cylinder motor. Price $250. A good bargain.
No. 6 Speed Runabout, 4-6 passenger, 25' x 4'. Four cylinder Frisbie engine in running condition. Speed 18 miles. Price $250.
No. 7 Fast Runabout. Four cylinder Red Wing. 22 Miles. 21' x 5'. Price $500.
No. 8 Displacement Runabout, 20' x 4½'. Four cylinder Wisconsin. 22 miles. Price $450.

VENTNOR BOAT WORKS
Ventnor Heights, Atlantic City, N. J.

1 cyl. 2 cycle	
3 H.P. Ferro	$35.00
4 H.P. Gray	45.00
5 H.P. Havanna	35.00
6 H.P. Williams	65.00
8 H.P. Pierce	35.00
2 cyl. 2 cycle	
6 H.P. Gray	$65.00
6 H.P. Ferro	55.00
6 H.P. Lockwood-Ash	60.00
8 H.P. Gray	75.00
12 H.P. Ferro	115.00
8 H.P. Lockwood-Ash	85.00
12 H.P. Gray	145.00
14 H.P. Gray	105.00
15 H.P. Ferro	120.00
18 H.P. Kahlenberg, 7 x 7	415.00
15 H.P. Roberts three cyl.	115.00
18 H.P. Caille 4 cyl. unit plant	———
35 H.P. Vim 3 cyl.	235.00
4 cyl. 4 cycle	
4 H.P. Dunn, 2 cyl.	$35.00
6 H.P. Dunn, 3 cyl.	45.00
8 H.P. Buffalo, 2 cyl. and gear	105.00
12 H.P. Universal, 4 cyl. unit plant	235.00
12 H.P. Holliday, 2 cyl., 5 x 6	115.00
16 H.P. Dunn, 4 cyl., 4¼ x 5	95.00
20 H.P. Doman, 4 cyl., 4 x 5	335.00
35 H.P. Trebert, 4 cyl., 5 x 5	175.00
30 H.P. Erd, 4 cyl., 4 x 6	215.00
30 H.P. Erd, 4 cyl., 4 x 6 (new)	275.00
40 H.P. Automatic, 4 cyl., 5 x 7	275.00
50 H.P. Wisconsin, 4 cyl., 5¼ x 7	285.00
125 H.P. Standard, 6 cyl., 8½ x 11	1175.00

THE BADGER MOTOR CO.
Milwaukee, Wis.

Square Dealing Made this Business Big in One Year

REFUND
BOND GUARANTEE
That this motor has been rebuilt from spark-plug to base
MARINE ENGINE CO of PHILADELPHIA

Here we are, rounding the first year-buoy of what I hope will be a life-long spin!

One year ago we spurted off at the crack of the starter's cannon, with practically only a word as motive power—my word, vouching for the mettle of every rebuilt engine sold by this company.

That word was GOOD! Marine engine buyers trusted it and it came through humming! Our business went ahead in dashes and splashes and—as honor won is surety for more—it is continually picking up speed.

No trusting to luck, buying from us. We do not consider a rebuilt engine sold until the buyer assures us he is satisfied in detail that it is absolutely as we represented it to be.

Our seal on each engine says: We refund the purchase price if it isn't true that this engine was rebuilt from spark plugs to base-plate; the motor tested, run in under load and passed by our inspector before it is finished for sale to you.

Now for the second lap! Remember—when you want a good marine engine—

What Do You Need?

We can sell you your biggest money's worth in a marine motor for every type and load-line length of power craft. We offer only reliable engines, built by acknowledged leaders. You can trade in your old engine as part-payment if you wish and we will give you a square deal—the kind we are building success upon. Request this month's RED LIST of Rebuilt Engines. Bargains in it! You can't help but jump at least at one!

We are authorized distributors for:

Niagara	Nelseco
Hall-Scott	Gray
Automatic	Universal
Wright Reliable	2 and 4 K.W.
Scripps	electric plants
Brennan Standard	

Hyde & Sterling Propellers.

My word is good
D. C. MacNeill
President and Treasurer

We do not sell "as is" engines

MARINE ENGINE CO.
of PHILADELPHIA

MACHINERY EXHIBIT
BOURSE BUILDING

President—D. C. MacNeill
Secretary—H. B. Foster
Treasurer—D. C. MacNeill

THE MOTOR BOATING MARKET PLACE

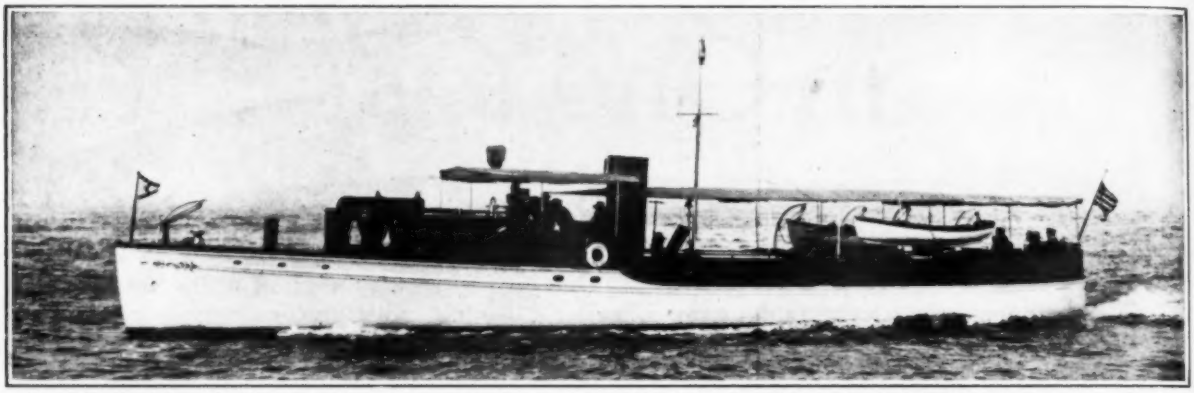
The rate for "For Sale" and "Want" advertisements is 8 cents per word, minimum $2.00. If an illustration is used, the charge is as follows, which includes the making of the cut:

Cut one inch deep, two inches wide..... $ 8
Cut 1½ inches deep, three inches wide..... $12
Cut 2½ inches deep, four inches wide..... $20
Cut 2¾ inches deep, six inches wide..... $25

Opportunities for the Motor Boatman

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MOTOR BOATING.

Classified advertisements set entirely in small light face type. No extra charge for capitals. Bold face type used at display rate, $12 per inch, single column.



No. 2335—For Sale—Attractive, commodious, twin screw cruising power yacht; 83' x 13.6' x 3.6'. Speed up to 14 miles. Two 75 H.P. 6 cyl. 20th Century motors; Bosch high tension magneto ignition. Deck dining saloon forward; aft are two double and one single staterooms, bath and two toilets. Independent electric light plant. Handsomely finished and furnished. Deckhouse, etc., of teakwood. Unusual deck space. Excellent condition. Fully equipped as shown. Low price accepted for prompt disposal. Cox & Stevens, Cunard Building, 25 Broadway, New York. Telephone 2700 Whitehall.

FOR SALE—18 h.p. 2 cylinder Standard marine engine, complete as furnished by the builders; overhauled and guaranteed. L. Copleston, 132 Nassau Street, New York City.

FOR SALE—20 ft. launch, 5 ft. beam; bronze shaftlog and stuffing box, automobile steering under cowl; Universal motor under hatch; Berling magneto; reverse gear, rear starter, life preservers, anchor, lights, etc. $375.00 for quick sale. Dr. Ferstenberg, Clinton, Iowa.

FOR SALE—Motor boat, gasoline screw; length 34 feet, breadth 9 ft. 6 in., draft 4 ft. tonnage gross 10 tons, net 8 tons. In good condition. At present at New Baltimore, N. Y. For price and particulars address Acme Cement Corporation, Catskill, N. Y.

FOR SALE CHEAP—29 ft. closed cabin launch; Sands toilet; 2 cylinder, 4 cycle, 10 h.p. medium duty motor; hull, motor and paint all in first class condition. Can be seen at Sandusky, Ohio. Box 155, Mansfield, Ohio.

81-FT. CRUISER

TRUNK CABIN, 10½ ft. beam, overhauled and painted, two cabins, chart room, engine room, sleep 10, Herrishoff double-planked hull, 50 h.p. Hitchcock engine, should get 15 miles. A. & S. Navigation Company, 84 State Street, Room 900, Boston, Mass.

For Sale—New mahogany runabout, 30 ft., 6 ft. beam. 35 H.P. motor, with starter, electric lights. Fully equipped. Natural mahogany finish. Seats ten persons. Speed 20 miles. Price $2250.00. Seen at 658 Faile Street, Bronx, N. Y.

For Sale—45 ft. Glass Cabin Yacht. Sleeping accommodations for six. Boat is fully equipped. New Fay & Bowen 45 H.P. engine. Interior of boat solid mahogany. Now in commission in Baltimore waters. For information regarding price and further details, apply Box 69, MOTOR BOATING.

FOR SALE—At a bargain, 26' x 5-8" V bottom runabout, 160 H.P. Van Blerck electric starter, lights and full government equipment. Box 66, MOTOR BOATING.

FOR SALE—Speed boat V-bottom, cypress hull, mahogany deck, auto control, 35 x 4, new 6 cylinder Emerson engine, 60 h.p. German Bosch magneto. Paragon reverse gear, model (B special), speed up to 25 miles. Will sell for want of use $600 (price). Boat is in first class condition. Photo on request. H. M. Brubaker, 608 West Tenth Street, Wilmington, Del.

FOR SALE—Runabout 25' 6", beam 5' 0", hull cedar V-bottom decks mahogany. Engine 30-40 H.P. 4 cylinder Victor Lowe Bosch magneto. Seating capacity 8, automobile control, clutch forward and reverse. Speed 18 in P. L. Price $750, includes complete equipment. Address C. E. Rasche, 1371 Shakespeare Avenue, New York City.

For Sale—Speedway engine, 6 cyl. 140-H.P. 8½" bore, 10" stroke, excellent condition. Address, H. Chrystal Iron Works, 98 VanDyke St., Brooklyn, N. Y.

FOR SALE—30 H.P. Kalenberg complete and as good as new. Also other small motors from 2 to 20 H.P. Jeslek Bros., Macatawa, Mich.

Must sell, on account of owner leaving, 38' cruiser, new. Scripp Electric Starter. One man control. Cost $4000. Sacrifice for $1500. Paul Laurents, Laurents, Louisiana.

Free Illustrated Literatures, New Rebuilt Engines, Outboards, Clutches, Gears, Joints, Pumps, Hyde Propellers, Stoves, Cruisers, Runabouts, Canoes, Camping Outfits. Canadian Boat & Engine Exchange, Toronto.

Hull: 21x20x5x2. All piano finish mahogany. Finest construction and condition. Cost $2,600. Price $600. Ford, 41 East 42 St., N. Y. C.

For Sale—A limited number of new and used navy hulls, with or without power, consisting of hulls 30', 40' and 50'. Photos and specifications on request. Have four unused 40' launches, powered with new steam plants, and valuable spare equipment, ideal outfits for towing or work. Ready to deliver under their own power anywhere. Apply Box 685, Norfolk, Va., for information and prices.

Advertising Index will be found on page 138

For Sale—Power cruiser 47 ft. x 13 ft. x 3 ft. 9 in. Built August, 1920. Speed 12 M.P.H. 4 cyl. Sterling engine. Separate electric lighting plant. Mahogany finish below and on deck. 3 toilets. Crew's quarters sleeps two. Owner's quarters, two staterooms and main saloon, sleeps seven. Bridge deck control. Engine room in separate compartment under. In A1 shape, fully found and now in commission. For further particulars address MOTOR BOATING, Box 35.

1—Model "B" Red Wing, complete with electric starting system, new. $700.00
1—8 cyl. Model "C" Van Blerck, complete with many extra parts..... 450.00
1—4 cyl. 4 cycle. 22 H.P. Gray, complete 500.00

RED BANK YACHT WORKS
Red Bank, N. J.

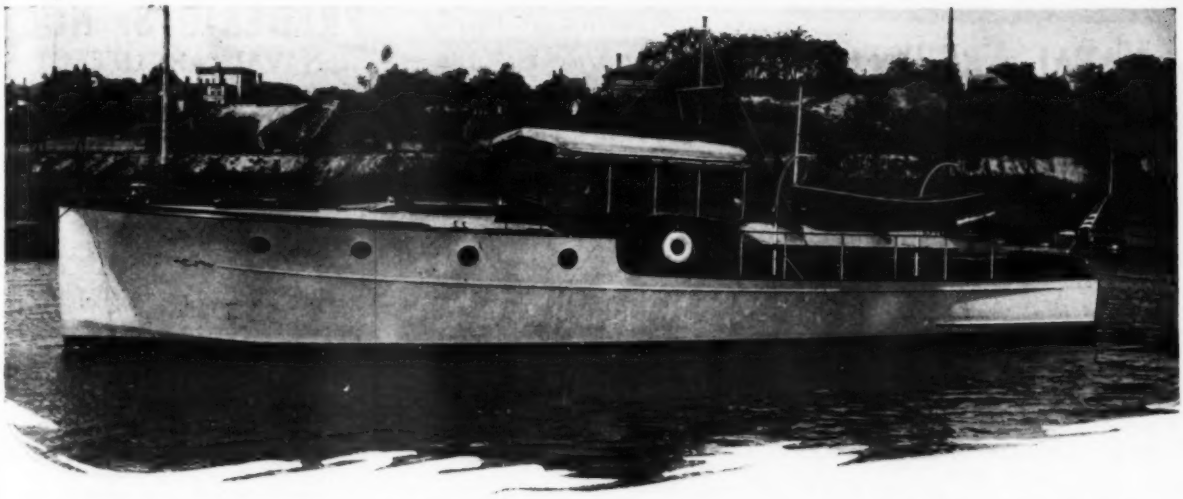
For Sale—50' x 14' 6". Harbor tug or Supply boat. With two cylinder 45 H.P. Gulowsen-Grei-Crude-oil engine. Joes clutch and electric starting device. Separate engine with air compressor, boat fully equipped and ready for work, boat, engine and equipment new—1921. Will sell for one-half of actual cost. Also one large size pentwater lifter, with twin oscillating cylinders for steam—Kriebel make, used only one season. Frank J. Albright Company, La Pointe, Wisconsin.

Standard engine, 32-37 H.P., right hand: used three seasons; condition perfect and guaranteed; with complete propeller outfit and extra parts; can be seen in yacht; am installing a six cylinder engine of same make. Price $1100. E. vom Hofe & Co., 92 Fulton Street, New York City.

Will sell at a reduced price two pair of new imported Bush prism binoculars. 10x and 12x. Exceptional glasses selected from stock by experts. Glasses complete with leather case. F. W. Horenburger, 4263 Byron Avenue, Bronx, New York.

50-ft. Speedway boat for sale; all mahogany; fully equipped; seen at Lawley's; also Speedway alcohol range, 6-burner top, oven and broiler; 1 Matthews 1 k.w. generating set. E. L. Stevens, Kittery Point, Me.

POSITION WANTED—First class boatman, with wide experience, wants position as captain of power yacht; can give good references. "X. Y. Z.," care MOTOR BOATING.



Anna D—54-Foot Express Cruiser

ANNA D is one of the famous Great Lakes 54 foot Express Cruisers of recent production and has just been commissioned and repowered. One of the finest, fastest and most powerful boats of its type on the market; in the very best of condition throughout and a real bargain in every sense.

Length, 54 ft.; beam, 11 ft.; draft, 3 ft. 6 in.

Cruising speed, 20 to 30 miles per hour. Maximum speed, 35 to 37 miles per hour.

POWER PLANT

New twin screw installation just completed consists of two 400 H. P. 12-cylinder Liberty Motors which are known to be the most efficient high speed motors ever designed, and ideal for an express cruiser of this character. Built to run at full speed all day long and exceptionally economical when cruising at 20 to 22 miles per hour. Electric starters and Delco ignition. 32 volt Lalley Electric Lighting Plant with storage batteries provides ample current for lights and electric range.

ACCOMMODATIONS

Crew's quarters forward with berths for four and separate toilet. Complete galley in forward cabin with electric range, fireless cooker and built-in ice box. Engine room under bridge. Dining saloon in forward end of aft cabin, immediately back of bridge. Owner's stateroom aft with berths for four, toilet and lavatory.

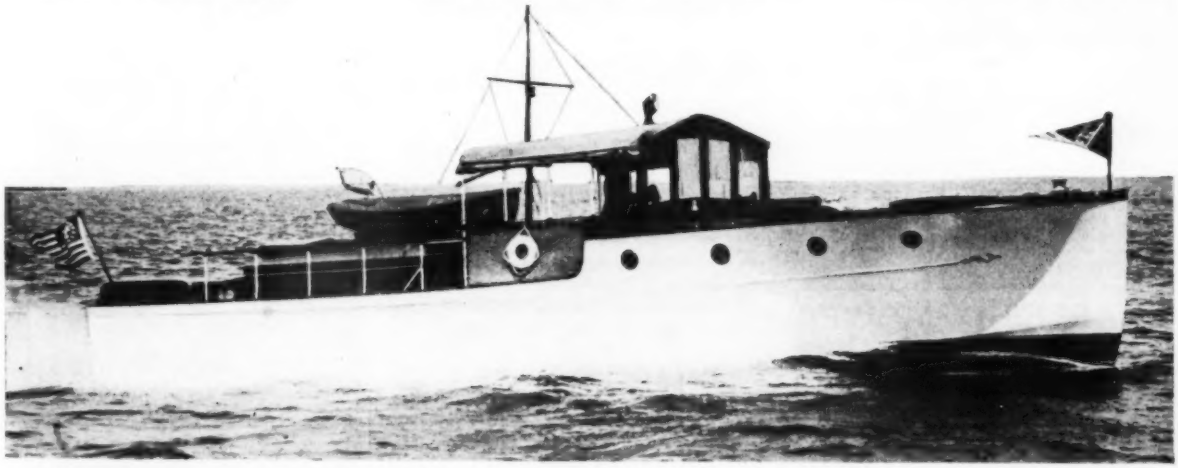
ONE MAN CONTROL

All controls are handled by the navigator from the protected bridge deck. This boat is easily operated by a crew of two.

Anna D is everything that an express cruiser of her size should be. Complete in equipment and accommodations, staunch and seaworthy, roomy and comfortable, beautifully finished and in the pink of condition. Now in commission and ready for extended cruising. May be inspected by appointment in New York waters.

Inquire from your own broker, or by letter or wire to

Horace E. Dodge 2670 Atwater Street Detroit, Mich.



NAVAL ARCHITECTS & YACHT BROKERS

Thomas D. Bowes, M. E
NAVAL ARCHITECT AND ENGINEER
Offices:
Lafayette Bldg., Chestnut and Fifth Sts
PHILADELPHIA, PA.

COX & STEVENS
Naval Architects and Engineers
Yacht Brokers
25 Broadway, Cunard Building
(Morris St. Entrance), New York City
Telephone 2700 Whitehall

B. T. DOBSON
NEW BEDFORD, MASS.
Naval Architect, Yacht Broker
Marine Insurance
Designer of Sailing Craft, Auxiliaries, and Power Yachts.

R. M. HADDOCK
NAVAL ARCHITECT
Sail or Power Yachts, Houseboats and Commercial Vessels
Yacht Broker Sales and Chartering
50 East 42nd St. New York City

E. LOCKWOOD HAGGAS
Naval Architect and Engineer
Designs for Yachts, Motor Boats and Commercial Vessels
Construction Supervised
14 S. Wissahickon Ave., Atlantic City, N. J.

William H. Hand, Jr.
NAVAL ARCHITECT
NEW BEDFORD, MASS.
HAND-V-BOTTOM DESIGNS
Every design, now as always, my personal work.
Send stamp for catalog illustrating forty-three typical Hand-V-Bottom designs.

WALTER COOK KEENAN
NAVAL ARCHITECT
602 Liverpool & London & Globe Bldg.
New Orleans, Louisiana
Sail and power yachts. Houseboats and commercial vessels. Surveys made in all Gulf Ports.
Specialist in shallow draft vessel for Southern waters.

CHARLES D. MOWER
Designer of
SENSIBLE CRUISERS
POWER—SAIL—AUXILIARY
Twenty-five years' practical experience
350 Madison Avenue New York City

Combination Boarding and Bathing Ladder

(*Continued from page 38*)

the boat, for which this is intended has mahogany trim it would be more in keeping with the general scheme of things if the steps were made of mahogany also.

The sides should be of 1¼-inch stock, shaped as shown, with strips of rubber fastened to them to prevent the chafing of the hull where they touch it. The steps themselves should be made of 1-inch stock about 7 inches wide. They are to be let into a rabbet in the side about ⅜-inches deep, fastened with two screws through the side into the step. There is also to be two brass angle clips on each side in the way of every step to further strengthen this joint as shown in detail. These are to be of brass about 2½ by 2½ inches fastened with two screws through each leg of the angle. Doing this will make the whole job very rigid. For the hanging hook, I have shown a stock hook that can be bought at any marine supply house, these hooks fit into plates on deck and make a very neat job, for when the ladder is stowed away and not in use there is no projecting fitting on deck for one to trip over. On the lower edge of the sides of the boarding ladder is a plate about eight inches long with an eye in it, this is to serve as a hanger for the bathing part of the ladder. On the bathing ladder is a plate that has a hook on the upper end, this is to hook into the eye of the other plate, on the inside is to be a very heavy brass hook and eye, to fasten the inside edge of the two parts of the ladder, this arrangement makes a very strong one and no trouble whatsoever should be had of the bathing ladder falling off of the boarding part. The bathing ladder sides do not have to be shaped, as the boarding ladder is, but can be made with sides about eight inches wide. The sides of the boarding ladder have to be shaped according to the shape of the hull at the point where they are intended to be used.

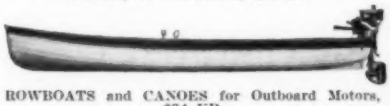
C. A. N., New York, N. Y.

THOMPSON
BETTER-BUILT BOATS

CANOES, $45 UP.

ROWBOATS and FISH BOATS, $34 UP.

ROWBOATS (Knocked-Down; Assemble Sections Yourself in Two Hours) $29 UP.



ROWBOATS and CANOES for Outboard Motors, $34 UP.

MOTOR BOATS (16 to 26 ft., with Engine Installed), $200 UP.

CATALOG FREE Save Money Order by Mail
State Kind of Boat in which you are interested.
THOMPSON BROS. BOAT MFG. CO.
103 Ellis Avenue Peshtigo, Wis.

FREDERIC S. NOCK
NAVAL ARCHITECT
Yacht Builder, Marine Railways, Storage and Repairs
East Greenwich, Rhode Island, U. S. A.

RIGGS YACHT AGENCY
350 Madison Avenue
(at 45th)
NEW YORK CITY
Telephone Vanderbilt 0596 Cable address "RIGGING"

JOHN H. WELLS
NAVAL ARCHITECT
23 Years' Experience
Brokerage Stock Boats
Telephone: Vanderbilt 9307
52 VANDERBILT AVE., NEW YORK
(Opposite Grand Central Station)

DON'T FORGET YOUR APPETITE

Ah! The joy of a cool, satisfying lunch out on the open water, in a bosky dell on a secluded island, or on the beach of some distant shore. The welcome to whetted appetites of clean, fresh, appetizing food and a few "cold bottles" of favorite beverages, served from an

Everybody's Outfit

Don't overlook adding this important piece of equipment to your boating outfit! A combination de luxe picnic hamper and portable ice box. Small piece of ice keeps contents cool for 24 hours. Metal lining is dust-, water-, and insect-proof. Strongly built, beautiful in appearance. Size: 21 inches long, 10 inches wide and 12 inches deep.

Sent prepaid for $6.50 if your dealer cannot supply you—$7.50 west of Rockies.

Write for free booklet describing this and other popular styles.

BURLINGTON BASKET COMPANY
650 Hawkeye Building, Burlington, Iowa

WDC
Milano
Fifth Avenue's Favorite Pipe
"There is something fine about it"
$3.50 and up at the better smoke shops
Wm. DEMUTH & Co.
NEW YORK

Advertising Index will be found on page 138

Why Pay More?

We want to broaden the field of enjoyment coming from these high grade motors and therefore we have set a new low level in outboard motor prices—the marvel of the outboard motor field. Therefore, *why pay more?*

Sturdy Single		Superb Twin	
Battery	- $75	Battery	- $115
Magneto	- 85	Magneto	- 125

California Branch: A. G. Hebgen, Mgr. 440 Market St., San Francisco, Cal.

Canadian Distributor: Canadian Boat & Engine Exchange, 100 Front Street, Toronto, Ont., Can.

DEALERS.—Write today for Exclusive Spinaway Dealership

ALL those fine qualities which made Apollo Belvedere and Venus de Milo most perfect of their types—indomitable vitality, graceful symmetry, supreme simplicity, and perfect weight—have been exemplified in the

Spinaway Detachable Outboard Motors

opening up new worlds of comfort, new joys of dependability, new accomplishments in outboard motor simplicity—for you!

What thousands of gay, carefree hours of sport, recreation, and exhilarating fun these extraordinary Spinaway features promise! What glorious dawns on the water—noons, sunsets, evenings—you can anticipate with these "Pals of Play" —either the Superb Twin or the Sturdy Single. For Spinaway thrives lustily—and purrs contentedly in the very joy of it—in peaceful pools, choppy currents, surging streams, breezing along happy as a bluebird, untiring as an airedale.

The gem of the water, truly—proud, spirited, faithful, unconquerable, yet with a simplicity found only in true leaders. Honestly, you'll never know what *real* outboard motoring is, until you push off and Spin Away with a Spinaway.

Meet these "Pals of Play"—we'll be glad to introduce you. Go to the Spinaway dealer in your town—allow him to put either a Sturdy Single or a Superb Twin through its paces.

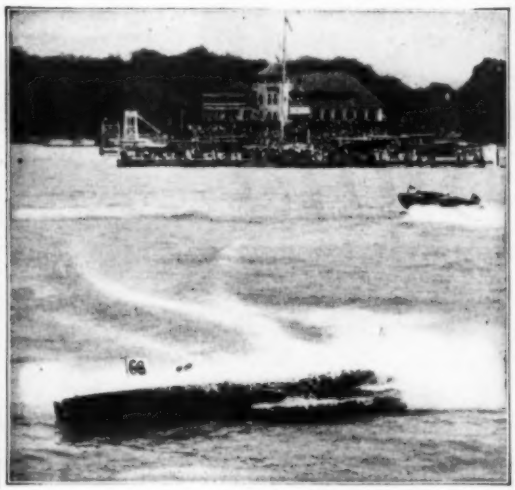
If you don't know your Spinaway dealer, write us and we'll tell you his name—and send you a handsome catalog. No obligation at all.

Spinaway Boat Motor Co., 100 So. Chicago Ave., Freeport, Ill.

"Spinaway happy hours with a Spinaway"

ATWATER KENT

SCIENTIFIC IGNITION



On the Last Lap!

YOUR ENGINE running smoothly, hitting right along with never a miss, as foot by foot you pick up the leader, and cross the line a winner.

Every racing yachtsman knows what a glorious feeling this is.

ATWATER KENT scientific ignition, beautifully and accurately made yet so sturdily constructed, has done its part.

It is equally as positive and satisfactory on the auxiliary or houseboat as on the racing craft.

Any motor is a better motor if it's ATWATER KENT equipped.

Let us send you literature

ATWATER KENT MFG. CO.
4962 STENTON AVENUE
Philadelphia

All Yacht Clubs Asked to Co-operate

(*Continued from page* 45)

Throughout the ups and downs of the sport, the A. P. B. A. has stood foremost as the originator of organized racing by compiling rules which have been the guide for the conduct of all worth-while events in America. They have been amended from year to year as occasion demanded. Today they are used by practically every power boat racing organization, in whole or in part.

Many organizations have sprung up to compete with the A. P. B. A. for popular favor, and many of them have dropped by the wayside, while the A. P. B. A. has gone forward steadily. This competition is due principally to a lack of understanding between sections of the country. In Detroit we felt the same way for many years. We did not understand. We did not know the officials. They did not know us. Our conditions out here are quite different than in the East. We could not make them understand it. We thought they did not want us butting in. That they just wanted our money to keep the wheels going. We found out differently when we got them to attend our races. We learned that they are real human beings like other folks; that their hearts were wrapped up in making the sport the best on earth for either rich or the poor.

Business has made it necessary to be in New York City frequently, and, as the demand became more pressing recently, concluded to move there and make it a permanent place of residence. It should make no difference where the officials of the A. P. B. A. live, but it does sometimes; hence if there is existing in the minds of any of the members a feeling that there has been any display of sectional favoritism recently or during the past it is to be hoped that it will be submerged so far that it can never rise again. One who has lived in and knows the Middle West, taking up a permanent residence in the East at this time should make it hard for such arguments to apply.

I have always played the game fair and only sought to do what I believed to be for the good of the sport, which in the end could only serve me well by serving the majority better. That one has been retained in the difficult position of chairman of the regatta committees these many years, rather indicates the faith sustained in the honesty of one's intentions. This confidence has been more highly prized than anybody will ever know, and it has been a pleasure to do the hard work involved just because of the intimate friendships acquired. They are priceless.

There should be only one rule-making organization like the A. P. B. A. in this country. If the A. P. B. A. does not fulfill the purpose for which it was founded, the members have it within their power to make it what it should be. If the officers and committees fail to perform their duties as they should, send your delegates to the meetings, instead of mailing proxies, and see that the officers and rules you want are substituted. Get up on your feet in the meetings and make your wants known. Everybody is entitled to a fair hearing and will get it. Any proposition must be for the good of the greatest number or it cannot live, and nobody can expect to succeed who attempts to support an unfair or unworthy project.

If the continued efforts of the best elements of this organization cannot produce what the membership wants, and some other organization can do it, then let us have the other organization. But until that time arrives why cause confusion and a duplication of effort by trying to sustain two similar organizations, both of which are trying to accomplish the same ends. The A. P. B. A. is the largest organization of its kind in the world. It holds potential power of great magnitude if properly applied and becomes more powerful as it becomes larger. It deserves the support of every club in the country. It has no favorites to play; no hobbies to ride; no desires to be autocratic or dictatorial. It is not a racing organization and does not conduct races. Its rules are the choice of the members who attend the meetings and who vote for them. It is incorporated and is responsible for its acts. They must therefore be legal and carried out to the letter by those in authority to administer them. If your club is not a member and you don't like the rules, then have your club join the Association, come to the meetings and help to promulgate new rules and see that they are adopted. Those who do belong should take a more active part in its affairs. Then the Association can give you what you want.

The year 1923 promises to be the biggest year in every branch of yachting within recollection. Everybody doing his part will get the most out of it in pleasure, satisfaction and good health. In the end is this not what we are all trying to accomplish?

Then join us in our efforts to accomplish our aims and enjoy the pleasures resulting from the reflection that you have helped yourself and somebody else to gain some of these benefits. *DON'T KNOCK. PUSH!*

Advertising Index will be found on page 138

Baby Gar

Fastest and Most Successful Standardized Runabout Built

Ready for Delivery—Now

IF you want to buy a Baby Gar this spring, now is the time to place your order. We have six of these famous boats ready for spring delivery. This stock will not last long—better investigate at once so you can have the full season's use of your new boat.

As a boat Baby Gar has been more completely proved in speed and seaworthiness than any other boat of its type. It has won the biggest trophies of the boat racing world. Built by the same men who produced all of Gar Wood's racing successes—powered with the same type of motors, and fully guaranteed in workmanship, equipment and performance.

You can back your Baby Gar to win any race you care to enter. But it isn't only a racing boat. A big comfortable substantial runabout 33 ft. long, seating eight persons, beautifully finished and as safe and easy to control at any speed as a motor car on a concrete highway. This is the ideal owner's tender for fine yachts, as well as a practical boat for general runabout use. Furnished complete and ready to run.

50 Miles Guaranteed

$8250

Powered with a 450 H.P. Wood-Liberty Marine Motor. (1550 cu. in.) Speed guaranteed on 50 mile trial.

45 Miles Guaranteed

$7250

Powered with Detroit Marine-Aero Engine (Flat type) 300 H.P. (1350 cu. in.) Speed guaranteed on 50 mile trial.

Write today for full details and delivery dates. Attractive proposition for dealers.

N. Y. Territory Representative and Service Station, Caleb Bragg, Port Washington, Long Island

Phone Port Washington 257

Chicago Territory Representative, Webb Jay, Standard Oil Building, Chicago, Illinois

GAR WOOD INC.

7960 Riopelle Street **Boat Building Plant at Algonac, Mich.** **Detroit, Mich.**

Hall-Scott Equipment Makes Better Boats

BEARCATS ARE POWERED BY

HALL-SCOTT

Dependability and performance are two qualities that have won world-wide fame for the Belle Isle Bearcat. This is a striking tribute to the high quality and efficiency of Hall-Scott Marine Motors, to which all standardized Bearcats owe their Mechanical excellence.

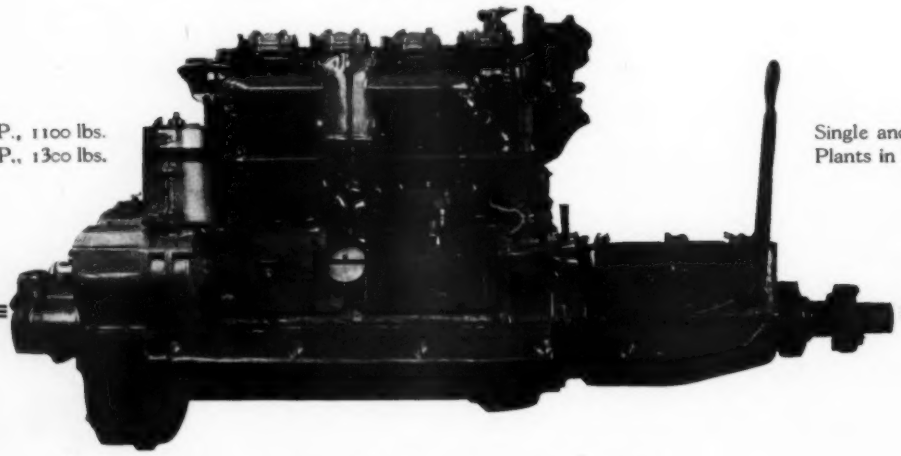
Catalog on Request

HALL-SCOTT MOTOR CAR CO., Inc.

Eastern Sales and Service Branch: 887 Niagara Street, Buffalo, N. Y.

Factory: Berkeley, California

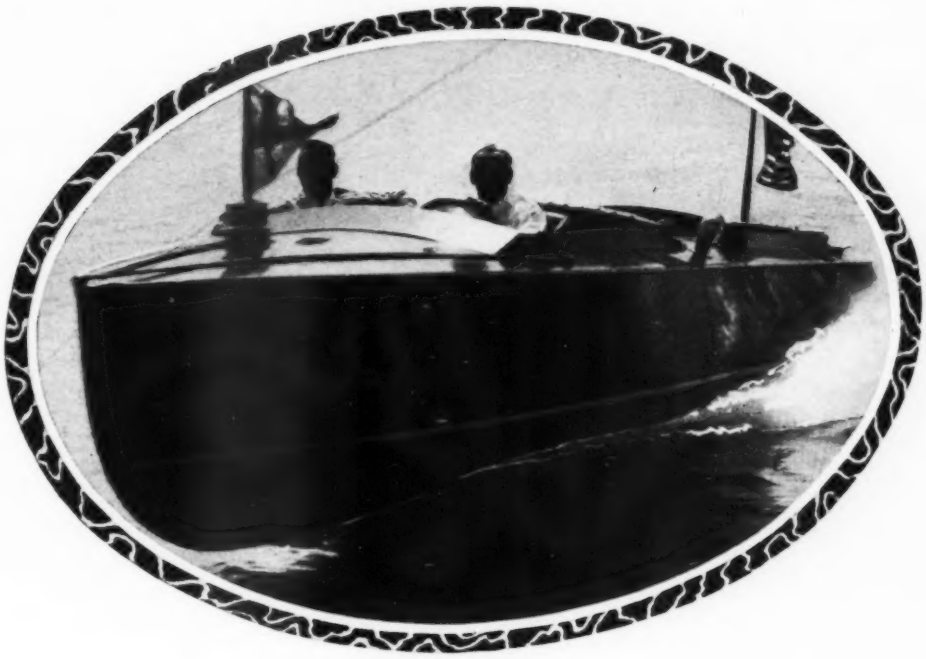
4 cyl. 125 H.P., 1100 lbs.
6 cyl. 200 H.P., 1300 lbs.



Single and Twin Screw Plants in Stock at Buffalo

Advertising Index will be found on page 138

Belle Isle Boats Are Better Boats



B E A R C A T

Chief among the reasons for the universal high standing of the Belle Isle Bearcat is the recognized fact that it is America's finest runabout.

At the watering places of the nation it occupies the position of highest esteem in the minds of persons of discrimination and nautical experience.

Absolute dependability and unequalled performance are its outstanding characteristics.

When the time comes that you demand the best there is in a runabout, you will own a Bearcat.

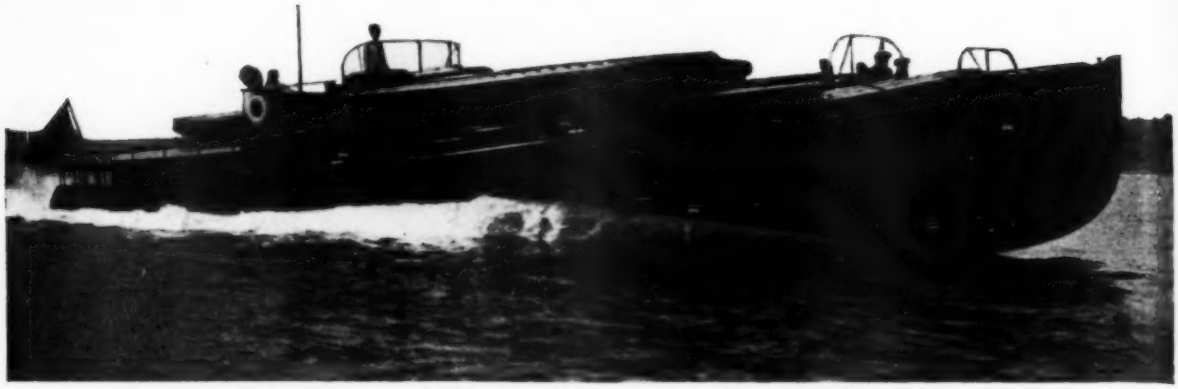
Catalog on Request

BELLE ISLE BOAT & ENGINE COMPANY, DETROIT

9678 E. Jefferson Avenue

Eastern Distributor: Wilbur H. Young
522 Fifth Avenue, New York City

Western Distributor: Commodore Humphrey Birge
El Mirasol Hotel, Santa Barbara



Shadow F. Purdy-Built

Owned by Mr. Edward S. Moore of New York City

SHADOW F is universally recognized as the finest express cruiser ever built, the last word in design, construction, finish and equipment. It is an expression of the Purdy ideal in express cruisers, a type which has been consistently and progressively developed by this organization for several years.

Shadow F, Shadow V and Shadow VI have all been exceptional craft. Three boats of the Shadow type, about 50 ft. in length, are now under construction. They can be finished and powered to suit the requirements of the buyer. Immediate investigation is suggested.

These Purdy expresses make ideal commuter boats, combining the luxury and comfort of a private yacht with the speed and dependability of an express train. They are economical in operation, considering their size and appointments, safe, seaworthy, thoroughly manageable and complete in every respect.

Our unparalleled experience in this class of work is at your service. We can design and build your boat complete, build it from the plans of your own architect, or prepare plans according to your individual ideas for a boat to be constructed by other builders. Our service is complete and your satisfaction is guaranteed by the quality of Purdy boats now in service.

Let us figure with you. We invite your inquiries.

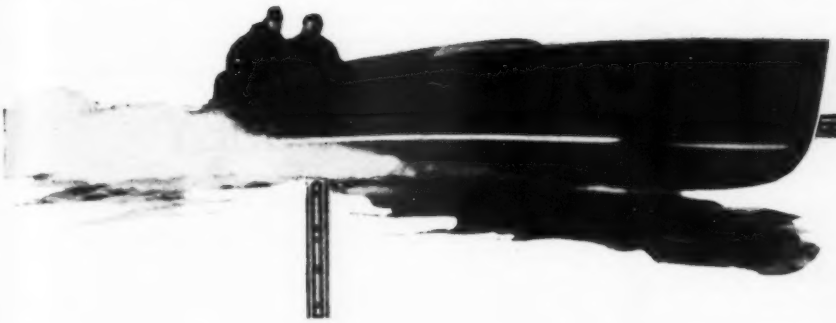
PURDY BOAT COMPANY

Designers and Builders of Express Cruisers TRENTON, MICHIGAN, U. S. A.

Shadow F, the latest of the famous Purdy-built express cruisers. Owned by Mr. Edward S. Moore of New York.

Length, 72 ft.
Beam, 14 ft.
Speed, 35 m.p.h.
Power, two 12-cyl. Allison, 425 H.P. each

Advertising Index will be found on page 138



At MIAMI BEACH

At Miami Beach there is never a dull moment, from the first of January to the thirty-first of December. If variety is the spice of life, the living at Miami Beach is highly seasoned for there is an endless choice of recreation, including every form of outdoor sport.

This is not merely a vacation resort for a few short weeks of the winter season; it is an ideal home the year around. While you can enjoy it by stopping at the splendid hotels you will want to eventually build a permanent residence and become a regular member of the community.

Miami Beach is growing rapidly. Property values are increasing as each new year sees the addition of many new homes and a larger number of regular visitors. Let us send you details and photos of Miami Beach homes and available property.

For data and plans, address

CARL G. FISHER, MIAMI BEACH, FLORIDA

Always Look For the Name ROBERT BOSCH and the TRADE MARK

Bosch

Start the Season Right— with Robert Bosch Accessories

The Robert Bosch Electric Vibrator Horn with its long range—two distinct tones and instant action is indispensable equipment. Made of brass—resists the elements.

Robert Bosch Spark Plugs are as everlastingly dependable as the *original* Bosch Magneto. Valve seat principle—Steatite core—can be taken apart for cleaning.

Send for descriptive literature at once and name of nearest Dealer.

ROBERT BOSCH MAGNETO CO., Inc.
Otto Heins, President
123 West 64th Street **New York**
Chicago Branch: 1302 South Wabash Ave.

Manufacturers are invited to get in touch with us.
No connection whatsoever with the American Bosch Magneto Corporation.

On Every Sea **In Every Climate**

WOOLSEY

Copper Paints and Marine Paint Specialties are considered standard

Copper "Best" Paint Brown—Yacht Copper Paints — Special Red and Special Green—Yacht Bottom Paints, Copper Bronze, Light Sea Green and Regatta Green—Yacht Whites, Gloss or Flat—Adamant Deck Paint—Best Spar and Sparon (Spar) Varnish—Engine Enamels—Marine Mixed Paints—Elastic Seam Compound—Boat Bottom Seam Compound, etc.

Copper Oleate Fish Net Preservative

Send for color cards and booklet—How to Paint a Boat—Free

C. A. Woolsey Paint & Color Co.
Jersey City, N. J., U.S.A.
Established 1853

STATEMENT of the Ownership, Management, Circulation, etc., required by the Act of Congress of August 24, 1912, of MoTOR BoatinG Magazine, published monthly at New York, N. Y., for April 1, 1923. State of New York, County of New York, ss.:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared C. F. Chapman, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the MoTOR BoatinG Magazine, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, International Magazine Company, 119 West 40th Street; Editor, C. F. Chapman, 119 West 40th Street; Managing Editor, C. F. Chapman, 119 West 40th Street; Business Manager, C. F. Chapman, 119 West 40th Street.

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each, should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock should be given.) International Magazine Company, 119 West 40th Street; Star Holding Corporation, Wilmington, Delaware, Sole Stockholder, W. R. Hearst, 137 Riverside Drive.

3. That the known stockholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

C. F. CHAPMAN, Business Manager.

Sworn to and subscribed before me this 20th day of March, 1923.

(Seal) OSCAR TUNELL, JR.
New York County, No. 149.

(My commission expires March 30, 1923.)

COMET TACHOMETER

Price
$32.50

Specialists in electrical equipment for motor boats and yachts. Comet Boat Lighting Plants, Generators 6-8 volt to 110 volt, Switchboards, D. C. Magnetos for make and break or jump spark. Tachometers, etc.

Write today for Bulletins and prices.

COMET ELECTRIC CO. **1241 St. Paul St. Indianapolis, Ind.**

Advertising Index will be found on page 138

Lay Your Course Due WC

WHEN you're looking for good boat fittings lay a straight course for the WC Trade Mark, and you will land safely in the harbor of Satisfaction.

WC OIL COMPASS

One of the 1001 WC Products

Built to withstand the jars of power craft, sensitive and accurate under all conditions. Carefully tested and fully guaranteed. Sizes of dials: 2, 2½, 3, 4 and 5 inch. If not at your dealer's, write us and we will give you the name of a WC dealer. Also ask us for a copy of our Free Booklet, "Compass Talks and Tests;" or send 20c in stamps and we will inclose with the booklet a handy celluloid Course Protractor.

Get This Book of Helpful Hints for Boat Owners

"Sea Craft Suggestions and Supplies" solves those daily "puzzlers" that few know how to handle. Tells how to Box the Compass; what is Proper Ground Tackle; gives hints on Steering Gear, etc.; describes WC Dependable Marine Hardware; tells uses. Compiled from 75 years' experience in making marine fittings. 50c prepaid.

SEA CRAFT SUGGESTIONS AND SUPPLIES

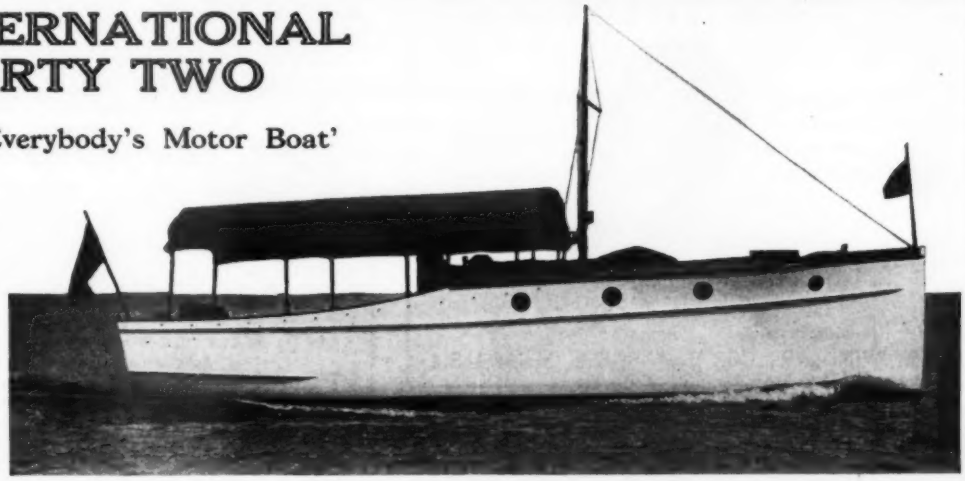
WILCOX, CRITTENDEN & CO., INC.
4 South Main St., Middletown, Conn.
ESTABLISHED 1847

The INTERNATIONAL THIRTY TWO

The First "Everybody's Motor Boat'

Raised Deck Cruiser Complete, Ready for Cruise—

Delivery from Stock

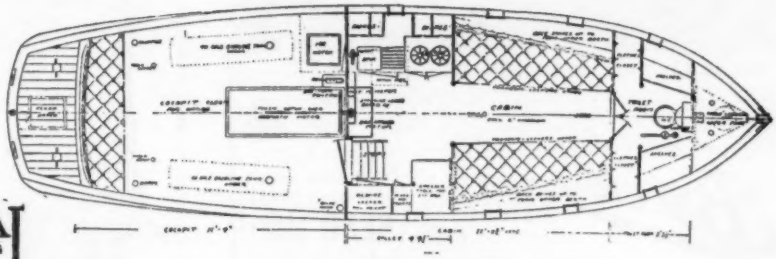


PRICES

$3950 with Kermath 20 H.P. Engine, speed 10 miles per hour.

$4350 with Kermath 35-50 H.P. Engine, speed 12 miles per hour.

The Best Boat Value—
By a Very Wide Margin



Arrangement Plan

INTERNATIONAL
SHIPBUILDING AND MARINE ENGINEERING CORPORATION
NYACK, NEW YORK, U.S.A.

THE PILOTOMETER

"No Navigating Equipment Is Complete Without It"

A Real Nautical Instrument

Will Last Forever

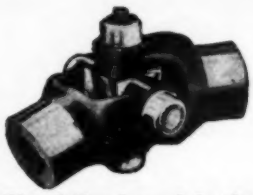
CAN YOU pilot your boat from buoy to buoy up a winding channel during a dense fog —with safety—and without figuring?

The **PILOTOMETER** will do it for you

Price **$15** *with full instructions*

THE PILOTOMETER MFG. CO.

Baker Building Baltimore, Md.



A GOOD MOTOR

Deserves the

BEST MARINE JOINT

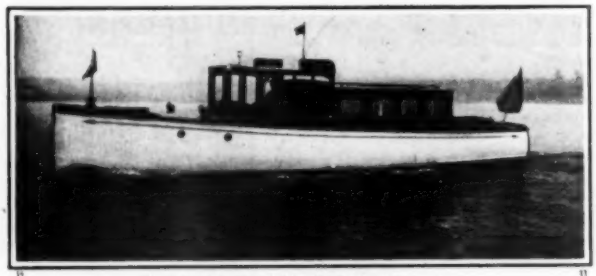
to send its power where it is needed

Blood-Brothers Joint is Durable, Needs Little Attention, Will Increase Available Power

Send for Marine Bulletin

BLOOD-BROTHERS MACHINE CO.

Allegan Michigan



Electrically Propelled Non-Sinkable Cruiser

"LIGHTNIN"

READY NOW FOR IMMEDIATE DELIVERY

Write for Information

WILLIAM T. DONNELLY

Room 1023 17 Battery Place, N. Y.

B. Schellenberg & Sons

EVERYTHING FOR THE PERSON OF THE YACHTSMAN, HIS OFFICERS AND HIS CREW

Clubs, yacht owners, commercial boat owners, should take advantage of our almost 70 years' experience in outfitting the mariner, both inland and deep sea.

Crews and Club Attendants furnished without Charge.

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Established in 1857

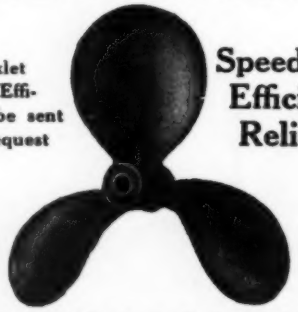
99 to 105 Myrtle Ave.,

(Near Bridge St., Brooklyn, N. Y.)

Telephone. Main 0804

HYDE TURBINE TYPE PROPELLERS

Our booklet "Propeller Efficiency" will be sent free upon request



Speed Efficiency Reliability

HYDE WINDLASS CO., Dept. B, Bath, Maine, U.S.A.

A REAL BOAT FOR REAL FISHERMEN

The MOTO-ROW $225

MAKE your vacation a real outing by owning a Moto-Row. Here is the greatest boat value ever offered—a combination power and rowboat of ideal design and construction for fishing, hunting and pleasure purposes, at less cost than an outboard makeshift.

Built of selected airplane spruce, copper riveted, and equipped with a dependable 2-H.P. motor protected from weather and theft beneath the stern deck, the Moto-Row offers you something distinctly new and practical. Dimensions 16 by 4 ft., speed 7 M.P.H., capacity six persons. Supplied with reinforced skeg, which permits beaching without injury to propeller. Salt water equipment $25 extra. Built by Sydney McLouth, Marine City, Michigan. Write for illustrated catalog.

BELLE ISLE BOAT & ENGINE COMPANY

Belle Isle Boats Are Better Boats

9678 E. Jefferson Ave. Detroit, Mich.

BUILD YOUR OWN BOAT—SAVE 2/3!

It's easy—simple from start to finish with the Brooks System. We send you the patterns, or we send you knock-down frames and patterns. Or we send you the complete knock-down boat. Illustrated instructions always included. No experience required. All parts are cut, shaped and fitted. You simply put them together. Or if you want full sized patterns only, we supply them from $2.00 up. Be sure to get the Brooks Boat catalogue and Boat Builders Manual before you decide on any boat. Our new Blue Streak models are the last word in boat design.

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PATTERNS
K. D. FRAMES
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COMPLETE BOATS

Over 100 Designs to choose from!

SEND 25¢ for your copy NOW!

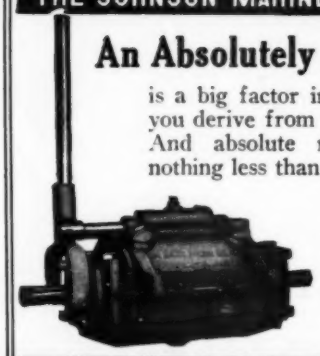
THE BROOKS COMPANY

Service Dept. No. 2, Saginaw, Michigan

THE JOHNSON MARINE REVERSE GEAR

An Absolutely Reliable Gear

is a big factor in the satisfaction you derive from your motor boat. And absolute reliability means nothing less than a Johnson Gear.



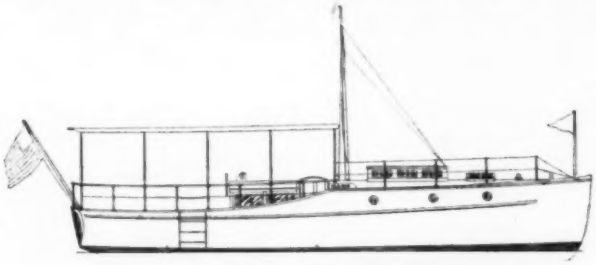
Made in six sizes, from 1—100 H.P.

Write Department 25 for our Catalog.

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER, CONN.

Advertising Index will be found on page 138

STANDARDETTE—38-Footer



The Symbol of Satisfaction

The "Standardette," is a strictly up-to-the minute cruiser which is built under conditions permitting marketing on quantity construction principles and under the personal supervision of T. A. Kyle with thirty years yacht building experience.

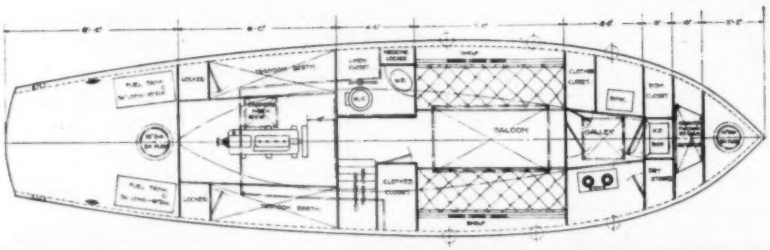
Price $6750—***Complete, further details on request***

A 38 x 10 Foot Cruiser, that will fulfill the average yachtsman's requirements in every respect. An economical craft combining all the most desirable features possessed by larger boats —such is the inspiration in back of our Standardized Cruiser.

Designed for use with one paid hand or, if desired, as an owner controlled Cruiser, as all engine controls are located conveniently at Steering wheel so boat can be operated on deck in same manner as automobile.

Material and construction are the very best obtainable, interior finished in French Gray with Mahogany trim. Comfortable sleeping accommodations for six make this ideal for week end cruises. Powered with a Model 35 Kermath engine with Bosch Electric starter and lighting outfit giving a speed of twelve miles. Boat will be fully equipped to meet U. S. Motor Boat laws including Electric Windlass for hoisting anchor.

Ready for delivery June 1st, 1923
Can be inspected at our works



T. A. KYLE COMPANY
INC.
CITY ISLAND
New York

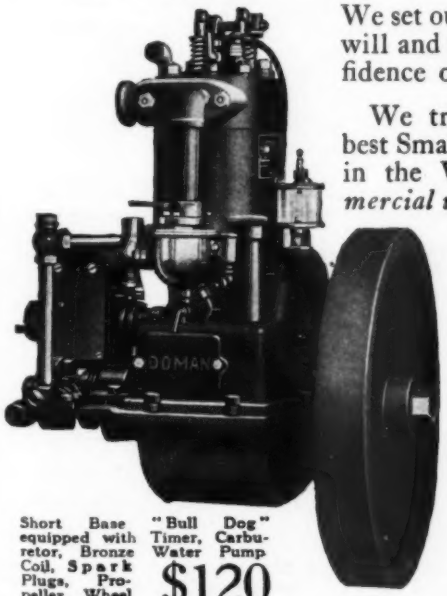
DOMAN BULL DOG

28 Years of Satisfied Customers

THERE is nothing that carries a better recommendation than a reputation built on the rock of steadfast reliance.

We set out to create genuine good will and to secure the confidence of boat owners.

We tried to build the best Small 4 Cycle Engine in the World for *Commercial use*— and if a host of satisfied owners and customers means anything — *we succeeded.*



Short Base "Bull Dog" equipped with Timer, Carburetor, Bronze Water Pump Coil, Spark Plugs, Propeller Wheel and Tools...
$120

The Best Small 4 Cycle Engine in the World Guaranteed 5 Years

Boatmen—Before you decide on your engine or before you replace the old one—get our bulletin—fortify yourself with all the facts—read about the exceptional success that scores of small coast vessels have had and are having with the DOMAN "Bull Dog"—and then make your decision.

UNIVERSAL PRODUCTS CO.

OSHKOSH **Doman Engine Division** **WISCONSIN**

MARINE HARDWARE AND SUPPLIES

Our Catalogue will help you select the right equipment for your boat. Copy sent on request.

PROMPT DELIVERY. RIGHT PRICES.

W. & J. TIEBOUT

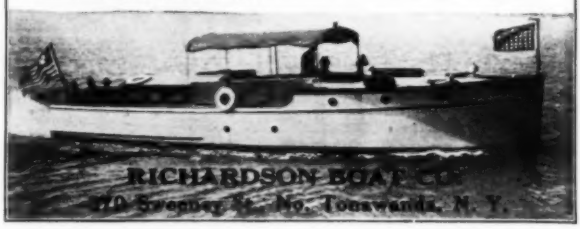
Established 1853 Incorporated 1892

118 CHAMBERS STREET
New York City

Hit the Water Trail in a Richardson Cruiser

Explore cool coves and shady inlets in a rugged runabout or comfortable cruiser built TO YOUR ORDER, K.D. or complete. We meet your ideas of boat comfort—and price as well.

The cruiser shown below is 42' x 9' 6" V bottom; speed, 12 miles with 35 H.P. motor.



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SPECIAL REDUCED PRICE

$9.90 Each

ON BLOOD UNIVERSAL JOINTS
⅞" — 1" — 1⅛"
1¼" — 1⅜" —
1½"—1" x 1¼"
—1½" x 1¼"—
1⅜" x 1⅜"

R. W. ZUNDEL COMPANY, Inc.
One block from South Ferry
47 Whitehall Street. New York, N. Y. Phone: Bowling Green 9157

NO CAULKING OR SEAM FILLING

for ten years if you use

ELASTIC SEAM-COMPOSITION TRADE MARK

Used by the Government and by most steamship and Yacht Builders and by Amateur Builders.
Write today for catalog of

Elastic Seam Composition, Elastic Copper Paint, and Elastic White Yacht Paints.

H.B. FRED KUHLS 65th St. & 3rd Ave. BROOKLYN, N. Y.

BOAT SUPPLIES

SILENCE your MOTOR EXHAUST

without loss of power from
BACK PRESSURE

THE TVEDT ADJUSTABLE MARINE SILENCER will do this for all classes of boats. It can be adjusted to your individual engine when installed, assuring maximum efficiency.

Tests of engines have conclusively shown no loss of power or speed with this silencer.

Write for Booklet; Silencing Marine Engine Exhausts Help eliminate objectionable exhaust noise.

Made for one to twelve cylinder motors

TVEDT-SMITH CO. Worcester, Mass.
Sales Office, 103 Franklin St., New York, N. Y.

TOPPAN BOATS

SEA-DOG

22 x 6 Fast Runabout 12 to 30 Miles
Kermath Equipped $1260 to $1980
Special Yacht Tender $95

15 ft. Outboard Motor Boat	$99
18 ft. Power Dory	$297
16 ft. Hydroplane "Bullet," 12 H.P. Universal Motor	$954
22 ft. Power Dory, 9-12 H.P. Universal Motor	$796
Toppan-Tot, 15 ft. Marconi rig sailing Cat	$450

Send for 1923 free catalog and price list.

TOPPAN BOAT AND ENGINE CO., Dept. M., Medford, Mass.

Another Addition to Our Stock of Surplus Government Goods

GENUINE DANGLER

ALCOHOL STOVES

$12.50 Value for $4.95 Each

Used by the Medical Department in the field in advance of the Regular Base.

Base is 14 in. square. Extreme height 22½ in., allowing for 10-in. oven under grate.

Complete with instructions in original crates as shipped to the government. While they last..$4.95

Send for complete list of Surplus Navy Equipment at once.

Also for our 1923 net price catalog of "Everything that can possibly be used on a pleasure or work boat to make it safer, more comfortable or faster."

E. J. Willis Co., New York
85 Chambers St., 67 Reade St.
"The New Center for Marine Supplies"

More Speed Guaranteed

Let us increase your boat speed with a

B & B Propeller

We are so sure that the celebrated B & B Propeller will make your boat go faster that we positively guarantee it to increase your speed from one to three miles per hour.

Excellent materials and workmanship together with scientific design is the reason for the wonderful efficiency of B & B Propellers. They are different.

Any size and pitch up to 30" dia. in stock.

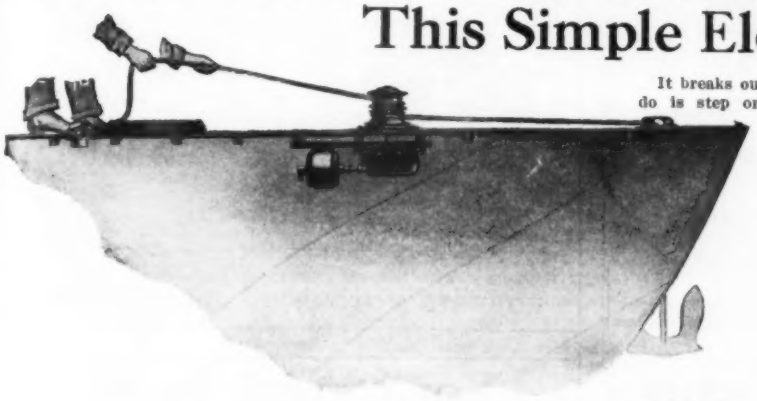
Write Today for Catalog

BRYANT & BERRY PROPELLER CO.,
1202 Lillibridge St., Detroit, Mich.

New York Representatives: E. J. Willis Co., 85 Chambers St., N. Y. C.
Canadian Sales Agents: Canadian Fairbanks Morse Co.

Advertising Index will be found on page 138

Every Motor Boat Owner Can Afford This Simple Electric Windlass



It breaks out and hauls up an anchor up to 200 lb. All you do is step on the button just like you do in starting an automobile.

Sounds like an expensive piece of machinery, but its price is well within the range of every motorboat owner's purse.

And it's extremely simple. You can easily install it yourself when you put your boat in commission for the coming season.

It will work on your storage battery. No it won't eat up all the "juice," for it takes very little current to operate. It can be furnished for any voltage.

We make two kinds—one for rope and one for chain. The wildcat type handles chain smoothly.

It's a good looking piece of equipment and the 5-inch polished barrel and mahogany base—all that shows on deck—will add to the appearance of your boat.

No matter what the weather this windlass takes all the hardship out of weighing anchor.

A-E-CO
Motorboat Electric Windlass

"Step on the button—Up comes the anchor!"

We also manufacture a complete line of electrically operated windlasses, sail and boat hoists, steering gear and auxiliaries for yachts and motor craft of every size and type. A majority of the better known yachts recently commissioned are equipped with A-E-CO Auxiliaries. Bulletins on request.

Write today for the descriptive circular

American Engineering Company

2419 Aramingo Ave., - - Philadelphia, Pa.

Distributors for Motor Boat Electric Windlass

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Experience Teaches—Hence the reason that once an owner of a New York Yacht Launch and Engine Craft always an owner. Many years' experience in high class Yacht Design and Construction are at your service.

20th CENTURY MOTORS

400 to 500 R. P. M.
Heavy Duty Type
Four cycle. Bore 6½", Stroke 8"

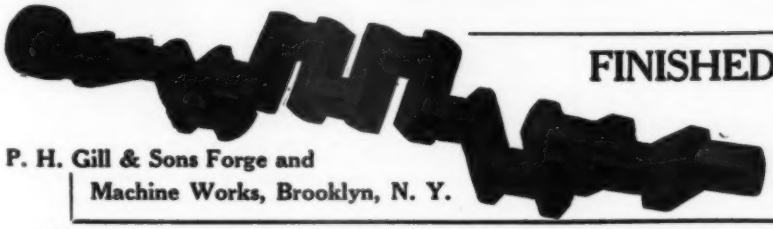
2 cyl. 15-20 B. H. P.
4 cyl. 40-50 B. H. P.
6 cyl. 65-75 B. H. P.

NEW YORK YACHT LAUNCH & ENGINE CO., Morris Heights, New York City

PIGEON·HOLLOW SPARS

Famous Racing and Cruising Yachts in every country are equipped with our spars.
Hollow and solid Marconi Masts, Brass fittings—Rigging work, Brass track and Slides

PIGEON HOLLOW SPAR CO., East Boston, Mass.



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We are furnishing them to some of the leading marine engine builders. Carbon and Alloy Steel, Heat Treated to your own specifications. We grind all Pins and Bearings. Forged, machined, and finished complete in our own plant. Let us quote you.

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WATERFORD
The Disappearing Propeller Boat

A Quick Getaway

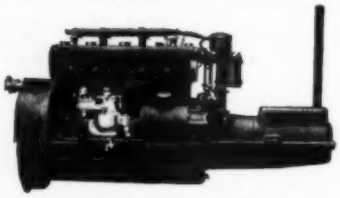
More time for fishing, hunting, or other recreation. No blistered hands—an absolutely reliable power plant. Go anywhere a rowboat will go, in shallow or deep water without danger to propeller from submerged obstacles. Costs little to run—gives years of service. Write today for booklet "1500 Miles in Canadian Wilds" and descriptive literature.

DISAPPEARING PROPELLER BOAT CORP.
107 Robinson St. North Tonawanda, N. Y.

Easily beached on any shore

Roomy—natural wood, copper nailed

ROBERTS MOTORS



Price of motor complete, including ignition outfit

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Four cylinder, 4-cycle, 16 H.P.

Price of complete power plant, including motor, ignition outfit, built-in reverse gear, polished bronze salt water propeller outfit, and starting and lighting outfit (including ammeter, starting switch, and storage battery), $435.00.

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Electric Searchlights
ARC OR INCANDESCENT

A Searchlight for any purpose. Arc Searchlights for 110 volts. Incandescent Searchlights for low voltage. In sizes from 7 inch to 60 inch. High efficiency. Moderate price. Special glass mirror. Sturdy cast bronze fittings.

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Your next boat

will be a stanch, long-lived craft if she is planked with

IDENTIFY THE GENUINE — BY THIS TRADE MARK

"TIDE WATER" CYPRESS "THE WOOD ETERNAL"

YOU'LL FIND THE "ARROW" — ON THE ENDS OF ALL BOARDS

CYPRESS has rot-resisting characteristics which make a Cypress boat a long-lived and *safe* boat. Get the *facts* in VOL. 19 of THE CYPRESS POCKET LIBRARY, "CYPRESS FOR BOATS and CANOES." Sent FREE with our compliments.

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Speed!

20 TO 40 M. P. H.

Red Bank Sea Skiffs combine the staunchness and seaworthiness of the skiff with the speed of the modern high power runabout. The ideal inexpensive fast boat, giving all the sport without the expensive frills and mahogany finish.

26' by 6' Standardized Sea Skiff, seats 10

20 M.P.H. with 50 H.P. 35 M.P.H. with 200 H.P.
30 M.P.H. with 100 H.P. 40 M.P.H. with 300 H.P.

Makes an excellent yacht tender when fitted with hoisting irons. Hull complete except engine, shaft and propeller, $1200.00 (including tax). Will install your motor for $100. We are standardizing this craft, fitted with 4-cyl. Hall-Scott, 100 H.P. motor for $1900.00 complete, speed 28 M.P.H.

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The Compass For Your Boat

should be the best obtainable. For seventy years Ritchie compasses have been the choice of experienced navigators.

Select the Ritchie for your boat

Our catalog will show you the one best suited for your needs. Send for a copy today.

E. S. Ritchie & Sons
Established 1850
110 Cypress Street
Brookline, Mass.

Houseboats Cruising Yachts

Stock Sizes: 50 Ft., 65 Ft., 70 Ft.

Built in the finest plant of its kind in the world.

Chas. D. Fish, Manager Marine Division

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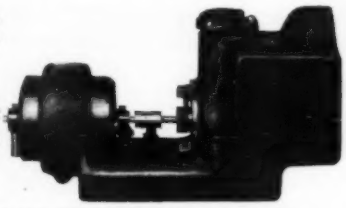
Always Ready to Go!

A compact independent unit of small dimensions and large capacity which starts at the turn of a switch and keeps a full steady flow thru discharge pipe, so long as there is a little current in the storage battery.

ERICO ELECTRIC BILGE PUMP



Requires no priming
Small consumption of current
Ample capacity

HUBBARD H. ERICKSON & CO.
3037 to 3045 N. Western Ave. CHICAGO

Advertising Index will be found on page 158

Maxim Silencer for Motor Boats

One of the 1,001 WC Products

SILENCES the noisiest exhaust. No back pressure; no loss of power. Made to fit all motors of from one to eight cylinders. Easily attached. Fully guaranteed. Reasonably priced. It not at your dealer's, write for full description, giving number and diameter of your cylinders and size of exhaust outlet.

In buying boat fittings, always look for the WC Trade Mark, found only on Dependable Marine Hardware.

Get this Book of Helpful Hints for Motor Boaters

"Sea Craft Suggestions and Supplies" solves those daily "puzzlers" that few know how to handle. Tells how to Box the Compass; what is Proper Ground Tackle; gives hints on Steering Gear, etc.; describes WC Dependable Marine Hardware; tells uses. Compiled from 75 years' experience in making marine fittings. 50c prepaid.

Wilcox, Crittenden & Co., Inc. (Est. 1847)
4 South Main St., Middletown, Conn.

Leads the Field for Safety and Convenience

Saves the Cost of an Electric Starter

Syracuse Reverse Gears

Multiply Boating Pleasure

THE Syracuse Improved Gear is fast becoming recognized as the most convenient marine gear on the market.

It is the only reverse gear made with an elevated rear starter built in as integral part of the gear.

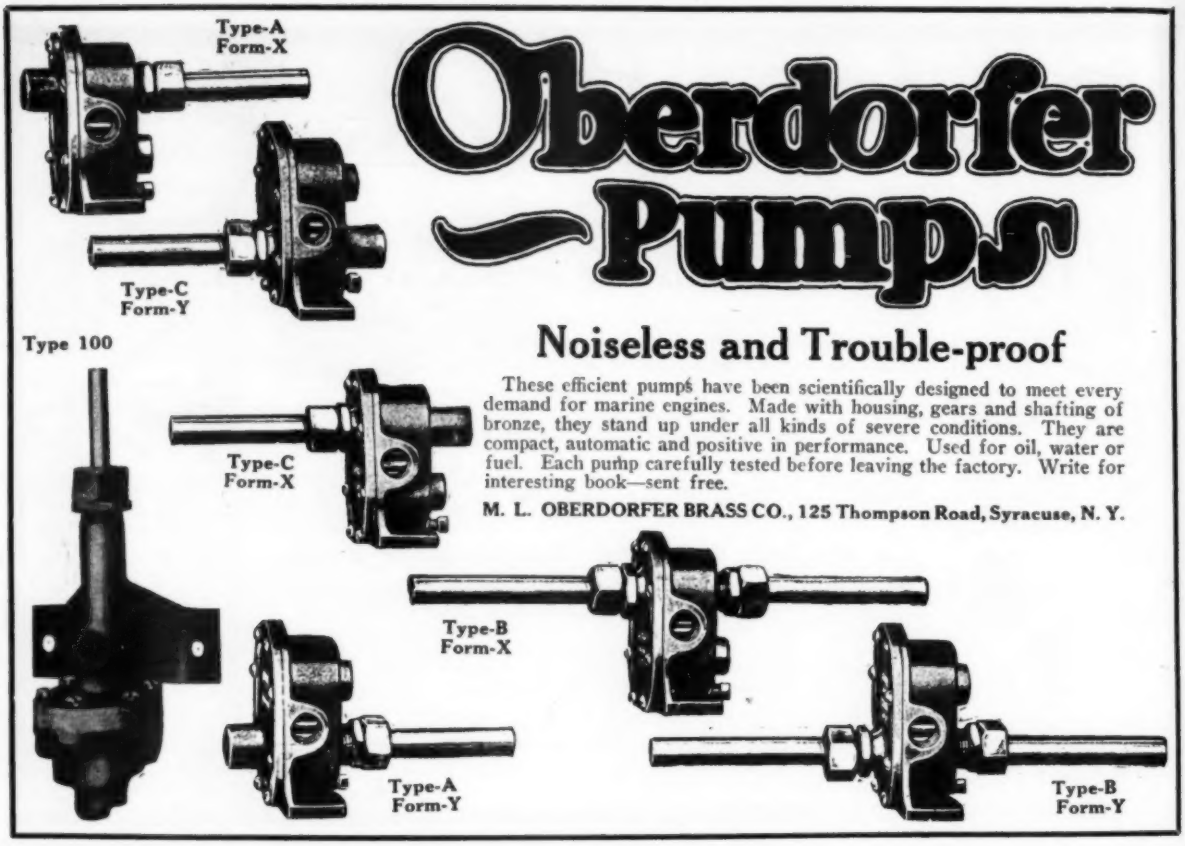
To the boat owner accustomed to stooping and twisting his body when starting the engine, this feature affords real comfort and adds to his boating pleasure. Takes no more room in the boat and permits a neater installation than engines started from the fly wheel. Sizes from 10 H.P. to 100 H.P.

Write for catalog and prices.

We make a special gear for 100 H.P. Hall-Scott and similar high speed motors.

SYRACUSE GEAR CO., INC.

101 Grape Street **Syracuse, N. Y.**



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Noiseless and Trouble-proof

These efficient pumps have been scientifically designed to meet every demand for marine engines. Made with housing, gears and shafting of bronze, they stand up under all kinds of severe conditions. They are compact, automatic and positive in performance. Used for oil, water or fuel. Each pump carefully tested before leaving the factory. Write for interesting book—sent free.

M. L. OBERDORFER BRASS CO., 125 Thompson Road, Syracuse, N. Y.

THE LATEST ARRIVAL

AN ADDITION TO THE ANDERSON FAMILY

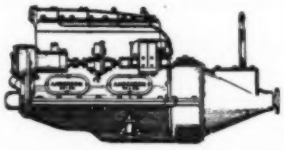
A brand new 20 to 30 H.P. 4 cylinder 4 x 5 MARINE ENGINE; up-to-the-minute in every detail; with flywheel, reverse gear and other working parts enclosed.

Just the thing for your Runabout, Cruiser or Workboat.

Write for further particulars.

ANDERSON ENGINE COMPANY

4032 North Rockwell St., Chicago, U.S.A.



The Barker Motor (Two Cycle)

"Have run my Barker Motor thirty thousand miles in ten years and it is good for ten years more."—Name on request.

Build for long service—New low prices in effect

The BARKER FACTORY ***Norwalk, Conn.***

Write today for "Red Letter Book" of Motors

In New York: TOPPING BROS., Varick and Vandam Sts. **In Boston: TOPPAN CO., 101 Haverhill St.**

Joe Van Blerck's Latest Triumph

A LINE of new Van Blerck Marine Engines in 2, 4, 6 and 8 cylinders and two speed ranges, developing from 11 to 160 H.P.

Also a light weight high speed line in 4, 6 and 8 cylinder sizes which develop up to 300 H.P.

And a real proposition for engine dealers

Write or wire today for details.

Sexton Motor Company
INTERNAL COMBUSTION ENGINES

30 Church St. **New York City, N. Y.**

Sole Sales Representatives

American Cushions

EQUIP your boat with American Life Preserver Cushions, made to measure. Filled with the best grade of Kapoc or with our famous Resillo Hair which also floats and outlasts Kapoc.

We use only the best of materials and workmanship. Choice of coverings includes real leather, fabric leather, velour, plush, tapestry, khaki, etc.

Write today for prices

Ottawa Cushion Co., Ottawa, Illinois

Specializing in the better kind of motor boat cushions.

Advertising Index will be found on page 138

WE WILL FINANCE THE PURCHASE OF BOATS AND ENGINES

BUILDERS AND PROSPECTIVE BUYERS

MAY OBTAIN ALL DETAILS UPON REQUEST. PLEASE STATE PRICE, TYPE, MAKE AND SIZE IN YOUR REPLY.

Temporary Address:
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TRADE MARK REGISTERED

High Grade Four Cycle Marine Motors

For many years Miller Motors have been classed among the higher grade popular priced marine engines. Built exclusively for marine service, embodying the best features of up to date four cycle design. Equipped with the highest grade accessories. One, two and four cylinders, 4 to 50 H.P.

Write today for latest catalog and prices

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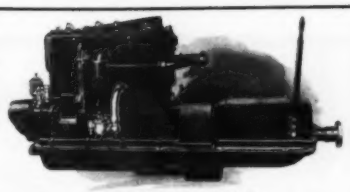
2333 North Talman St., Chicago, Ill.



Model R4—35 H.P.

"WHERE TO CRUISE" ***By F. W. Horenburger, C. E., Associate Editor of MoToR BoatinG***

A book of charts and useful information arranged for easy reference. Names and locations of all principal ports and harbors, compass courses, distances and sailing directions, etc.

Price, $2.00 Postage Prepaid in U. S. and Canada **(Vol. 6 of MoToR BoatinG's Ideal Series)**

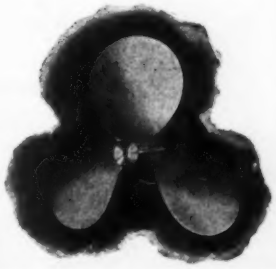
SPECIAL OFFER—*For a limited period we will send "Where to Cruise" with a year's subscription for MoToR BoatinG for $3.50. This offer applies to either new subscriptions or renewals*

MoToR BoatinG, 119 West 40th Street, New York, N. Y.

Cap'n Allswell says:

"You wouldn't choose a pair o' sculls to row a whale boat."

A propeller, to give the best results, needs to be made for the work it is to do. Columbians are. Send for the Columbian Book.



The Columbian Bronze Corp.
204 N. Main St., Freeport, L. I., N. Y.

TRADE MARK REGISTERED

COLUMBIAN *Bronze* PROPELLERS

THE STEEL TWELVE

In Stock—Ready for Delivery

12 H. P. **12″ Draft**

Rust-proof Steel, Shallow Draft, 26 ft. All-Purpose Boat

This sturdy steel boat will stand more hard service and actual abuse than any motor boat you ever saw. It is the strongest and most durable hull of its size ever built—16 gauge "Toncan" rustproof steel, with four watertight steel bulkheads. The solid steel-to-steel construction eliminates rotting wood. Only the decks, seats, coaming, etc., are wood.

Seating capacity, 14 passengers (can be increased to 26 passengers). May be loaded up to 5 tons with sufficient freeboard. One man control. Regular power equipment is a 10-12 H.P. Palmer NR-2, giving 8 miles. Any other motor can be furnished, or will furnish hull without motor.

The Steel Twelve is ideal for either pleasure or commercial service. Handsome, safe, seaworthy and troubleproof.

Write today for complete specifications and prices

American Balsa Co., Inc.
Motor Boats, Balsa Aquaplanes and Water Sport Buoyants

Welin Marine Department
305 Vernon Ave., Long Island City, New York

The strongest, sturdiest, most durable and trouble proof boat ever built. Seaworthy, safe and easily controlled. Shoal draft with protected propeller.

Helpful Hints for the Boatman

How to Box the Compass, How to Mark a Lead Line, How to Pack a Stuffing Box; this is the sort of practical information contained in "Sea Craft Suggestions and Supplies." Also describes and tells the uses of the complete line of WC Dependable Marine Hardware for motor boats and other small craft. Nearly 300 pages, strongly bound in full cloth. Fifty cents (coin or stamps) puts it in your cabin for ready reference.

WC Flange Couplings

One of the 1,001 WC Products

Accurately made, and interchangeable as to shaft size within the limits of each size of coupling. Regular Couplings suitable for most marine engines. Heavy Couplings for fishing boats and other work boats having heavy duty engines, and where great strength is desirable. Each coupling fitted with standard key way and set screws.

Wilcox, Crittenden & Co., Inc., 4 So. Main St., Middletown, Conn.
Established 1847

Advertising Index will be found on page 138

Something New
for the Out-Door Man.

Indispensable for yachting, motor and open boating, fishing, camping, hunting and year-round activities.

Water-
Wind-
Cold-
Proof

WEATHER-PROOF
GUARANTEED
TWO PIECE SUIT
WITH ADJUSTABLE HOOD
SLIP-OVER-ALL
Folds in small compass

Strong
Durable
Dark Olive
Fabric

Complete Freedom of Movement
" As easy to put on and to wear as pajamas "
Weight only 54 oz.

Combines all practical features of slickers and other waterproof clothing, with none of their disadvantages or discomforts. Does not peel, crack or become sticky.

Sent carefully packed, postage prepaid, on receipt of $10 (or C. O. D.)

Satisfaction guaranteed or money refunded without question. State height and weight when ordering. Leaflet on request.

ADRIA SUPPLY CO.
438 FOURTH AVE., NEW YORK

A NEW SALES PLAN
For BOAT BUILDERS and OWNERS

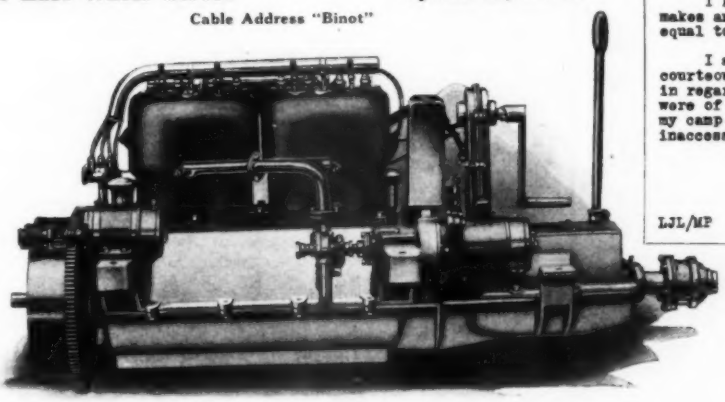
Write for catalog and details of this startling announcement

Brennan Standard Motors
Lead in Marine Value

Backed by Our 26th Successful Year

BRENNAN MOTOR MFG. CO.
500 East Water Street **Syracuse, N. Y.**

Cable Address "Binot"



DR. L. J. LADIN
1289 MADISON AVENUE
10 TO 12 A. M.
TELEPHONE 1143 LENOX

Mar.28,1923.

Brennan Motor Mfg.Co.,
Syracuse,
New York.

Gentlemen:-

I have used your Model "M" Motor for a number of years and was so pleased with it that I ordered the Model "B" Special,which I installed in my boat last year.

The engine proved so satisfactory in every way and has so much excess power over the Model "M" that I have decided to build a larger hull for it.

I have compared the Brennan engine with other makes and have no hesitation in saying that it is equal to the very best.

I am especially grateful for the kind and courteous advice and assistance you have rendered in regard to the installation of the motors which were of great value to me,because the location of my camp at Belgrade Lakes,Maine is rather inaccessible.

Yours sincerely,
L.J.Ladin,M.D.

LJL/MP

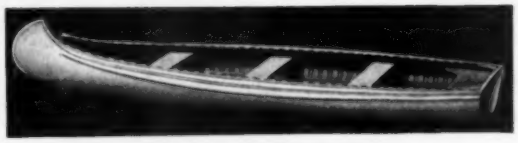
The Motor shown is Model B-4 25-35 H.P. medium duty

Other Sizes: M-4 { 17-20 H.P. / 25-30 H.P.
B-4 { 25-35 H.P. / 35-40 H.P.
B-6 { 40 H.P. / 50-75 H.P.

A new six cylinder 4 x 5½, 60 H.P., 1200 R.P.M.

All Models Furnished with a Complete Equipment.

"Old Town Canoes"



The Only Fine Canoe Designed for Portable Motors

HERE it is—a genuine "Old Town Canoe" with a square-stern. Clamp on your outboard motor, and go faster with it than you ever did before.

The Square-Stern is made like all "Old Town Canoes." Built into it is the fine "Old Town" combination of rugged strength and exceptional lightness. It will last for years. And, because it is canvas covered, it never needs caulking.

"Old Town Canoes" are the lightest, strongest, steadiest canoes made. The new 1923 catalog shows all models in colors. Write for one to-day.

OLD TOWN CANOE CO.
385 Middle St., Old Town, Maine, U. S. A.

SPORTS TROPHIES

IN PRECIOUS METALS
FROM ORIGINAL DESIGNS

SILVER SERVICES FOR YACHTS
PIECES FOR PRESENTATION

MAKERS OF
MEMORIAL TABLETS

J. E. CALDWELL & CO.

JEWELRY - WATCHES - STATIONERY

PHILADELPHIA

The Cook's Opinion of the Galley

(*Continued from page* 15)

next boat, the Emma before mentioned in these pages. We bought Emma from a bachelor, a good-natured, easy-going bachelor, aged anywhere from thirty-five to sixty. Before we acquired Emma, I had not had much intercourse with bachelors of this genial description, but I had been led to believe that by virtue of living alone they somehow absorbed a comfortable amount of domestic accomplishments. They could, I thought, plan, cook, and serve a delicious chafing dish kind of a meal; they had the art of making themselves comfortable in transient dwelling places. Not so Emma's bachelor. That cabin was hung and crammed with knick-knacks; fancy match holders, ash receivers, tiny mirrors, flimsy shelves and cupboards decorated with the owner's emblem, but I never saw a place with so few of the comforts of home. I pulled down all these dust catchers, including the porthole curtains—maybe it's uncivilized, but I never could understand what people want with curtains on board a little boat—and then I gave the cabin, which was all bright work, four coats of white paint. The galley, which was placed where it usually is on a small raised deck gasoline cruiser, just aft of the cabin, I left bright, to save my scrubbing arm. There was a porclain sink in the galley and an ice chest, neither of which we used except for storage space. This also, I suppose, sounds uncivilized, but when you eat all your meals on deck, as we did, what is the advantage of carrying the dishes down again and washing them in the cabin? As to the pots and pans, I would rather scour them where I can have unlimited water and no risk of stopping up the sink pipe with grease. Another thing is that if you wash dishes below you do it all by yourself, but on deck you can usually wheedle the Captain or somebody into taking over the frying pan. At all events, you have company. And, comrades of the skillet, isn't it bliss to dump the peelings and scrapings over the side and never see them again! To me that is one of the real joys of cruising; the trouble is that after three months on the water it becomes a habit, and for the first week at home in the Fall the Captain lives in mortal terror lest I absent-mindedly fling the beet tops or the potato skins out the window of our kitchenette onto the heads of innocent passersby in the city street below. I don't know why it is, but in the winter my worst spells of boat homesickness come when I am preparing meals. Getting dinner in a kitchenette is perhaps an easier and neater job than in Emma's tiny galley, but the thrill is gone, Cooks, the thrill is gone! Take peeling potatoes, for instance. On the boat I do it with a big black penknife that has somehow fallen so low in the world as the galley drawer, and I sit on the deck in the shade of the awning, with the whole bay, or maybe the Atlantic Ocean, spread before me sparkling in the sun. White sails and the cool lap-slap of water, a jolly tune from a neighboring cruiser's victrola tinkling down on the breeze—why, that isn't peeling potatoes, that's poetry!

But we were not talking poetry, we were talking about galley sinks, and ice boxes. And I said we never used Emma's ice box. Indeed, although we cruise from June to September every year, we have never found the need of ice. It is our delight to anchor in out of the way places; although they provide variety and entertainment, do not provide ice. When we are in New London, or Atlantic City, or Annapolis, I marvel to see the lengths to which yachtsmen will go for the sake of a lump of ice. I think lots of fat men must have gotten thin staggering down the dock with fifty dripping pounds. I wonder their wives don't try it instead of dieting. There are plenty of things to spread on bread besides butter—jam, or apple butter, or, if you want something cool and refreshing, cucumbers sliced very thin with a little salt. But if you must have butter, and you obviously must when there is "company" for supper, why, it will keep fresh for a day or two under an overturned flower-pot, dipped in cold water and set in a shady place where the breeze can get as it. The Captain and I drink a quantity of milk when cruising; perhaps the reason it does not get sour is because we never give it a chance, but when it does turn it turns quickly, and Pennsylvanians, like ourselves, can tell you that quickly soured milk, dripped in a cloth overnight, makes smooth "schmer käse" for a cruiser's breakfast. Of course, if your cruise lasts three days or a week it does not make much difference what you eat; whole families can subsist on ice cream, soft drinks and raw tomatoes, with a cantaloupe or two thrown in! Under such conditions the ice box is all important and the stove means nothing, but such conditions, in my experience, do not last. Somebody comes down with the colic, and the cook is humbly importuned for a soft boiled egg or a cup of cocoa made with "real milk." Perhaps this sounds joyless and foreboding, but it isn't half as joyless to read about as to experience, and that is why I venture a gentle warning. There are strong souls with stronger

(*Continued on page* 88)

TOBIN BRONZE

REGISTERED U.S. PAT. OFF.

Pauline M, built by The Consolidated Shipbuilding Corporation, is equipped with Tobin Bronze shafting and underwater parts.

—for underwater parts

PAULINE M, recently built by The Consolidated Shipbuilding Corporation for Mr. P. M. Howell, is an excellent example of a well-built power yacht.

Tobin Bronze was selected for her propeller shafting and underwater parts.

Pauline M is but one of the many yachts and power boats in which Tobin Bronze is thus used. Tobin Bronze is recognized by naval architects and builders as the ideal metal for such purposes, because of its extraordinary resistance to salt water corrosion and high tensile strength.

Tobin Bronze is manufactured solely by The American Brass Company and is supplied in the form of sheets, rods, tubes and turned and straightened yacht shafting.

THE AMERICAN BRASS COMPANY

GENERAL OFFICES, WATERBURY, CONN.

MILLS AND FACTORIES

Ansonia, Conn. Torrington, Conn. Waterbury, Conn. Buffalo, N.Y. Kenosha, Wis.

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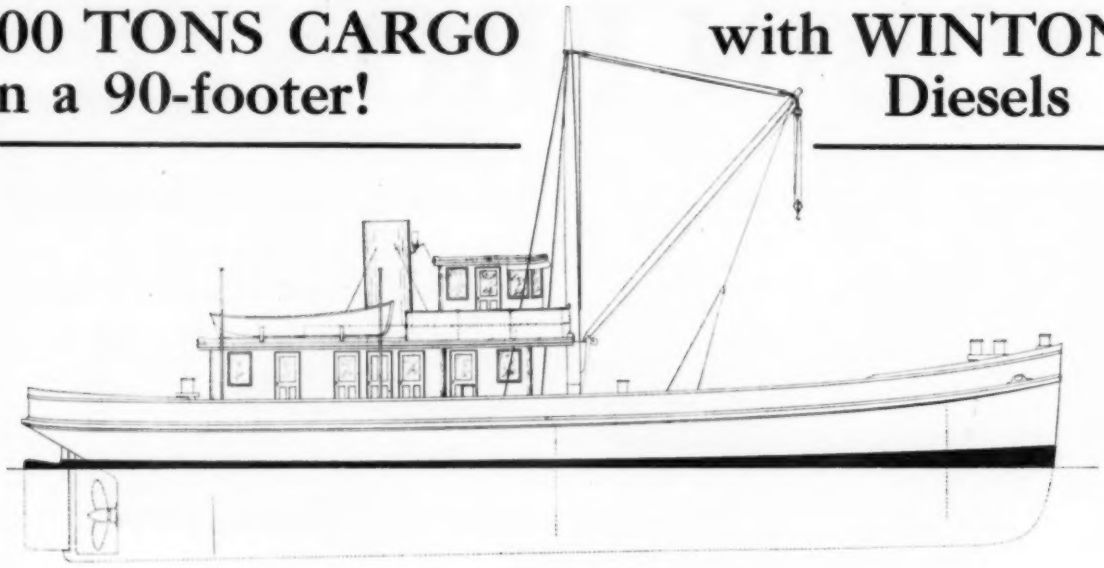
ANACONDA AMERICAN BRASS LIMITED. NEW TORONTO. ONTARIO. CANADA

100 TONS CARGO on a 90-footer! with WINTON Diesels



Power in Small Space

This 90-foot combination towboat and lighter, designed by Cox and Stevens for the Cuban American Sugar Company, is an interesting example of wide steaming radius and unusual cargo capacity in a small boat.

This craft, even when water and fuel tanks are full, will carry approximately 100 tons of cargo which would have been impossible on the given dimensions had steam machinery been employed and had an equivalent steaming radius been provided.

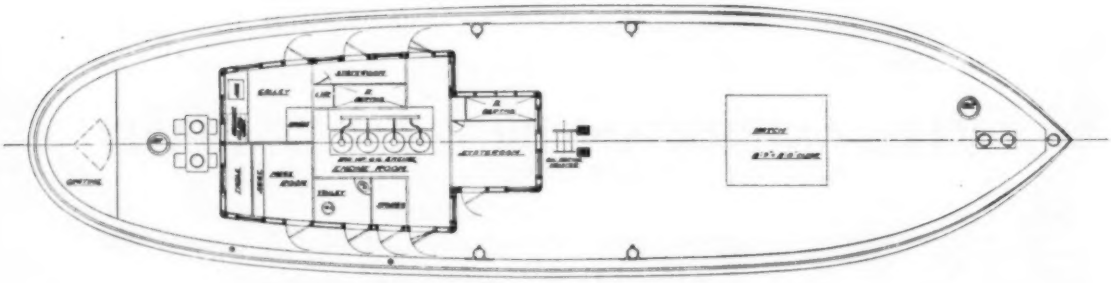
Winton Diesel Engines have best met the requirements in this case as in many others. The main engine is of the Diesel Reversible type to deliver 225 brake horsepower, with air compressor fuel oil service and transfer pumps, and all the necessary equipment for complete installation.

Just another example of the advantages of Winton Diesel Engines, particularly with regard to fuel consumption, economical operation, and high power in restricted space.

WINTON ENGINE WORKS

CLEVELAND, OHIO, U. S. A.

New York—A. G. Griese, Inc., 30 Church St. New Orleans, La.—A. Baldwin Company
Los Angeles—F. G. Bryant, 704 Delta Bldg. Washington—R. L. Fryer, 817 Albee Bldg.
Seattle—H. W. Starrett, Sunset Engine Company



Winton

Advertising Index will be found on page 138

The Needed Economies

Electricity has been the chief factor in the great advance made by American industry in the past twenty years. Electricity, with its less well-known parent, the central power plant, and its power generating equipment, brought the economies, efficiencies and refinements needed for the marvelous development that followed.

Yet this is only the beginning of the age of efficient power utilization.

Apply these principles to your vessel. Operate your propellers, pumps, winches, capstans, steering gear, ventilating system, galley appliances, heating appliances, machine shop accessories, state room and cabin fans, elevators, and lighting systems by the same efficient means used in successful industrial centers.

The ship thus equipped is going to be a vital factor in creating a successful American merchant marine. It is the economical ship which will bring profitable cargo-carrying to successful realization.

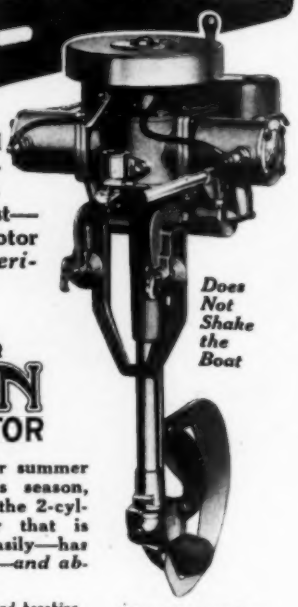
Westinghouse engineers, who are leaders in this development, will be glad to cooperate with marine engineers and architects.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.
Sales Offices in All Principal American Cities
Service Stations in Principal American Ports
Special Pacific Coast Representatives
Hunt, Mirk & Company, San Francisco

W WESTINGHOUSE ELECTRIC

Westinghouse

MORE POWER-GREATER SPEED-



The original 2-cylinder rowboat motor that has proven the speediest—the most powerful motor made—*not an experiment.*

Does Not Shake the Boat

The Great 2-CYLINDER KOBAN ROWBOAT MOTOR

If you want to enjoy your summer to the fullest extent this season, equip your rowboat with the 2-cylinder Koban—the motor that is quickly attached—starts easily—has lots of speed and power—*and absolutely no vibration.*

Special tilting device for shallows and beaching

Write for catalog and full information. Dealers and agents wanted.

Koban Manufacturing Co.
246 S. Water St. Milwaukee, Wis.

There are more Kobans in use today than all other kinds of 2-cylinder rowboat motors combined. There's a reason.

THE KEY

TO INTELLIGENT ECONOMY is the CARPENTER MARINE SUPPLY CATALOG

The new edition, 200 Pages, is just off the press.

It shows many novelties for the equipment of a new boat or the modernizing of an old one. Among them are the

G. B. C. ELECTRIC RUNNING LIGHTS
G. B. C. ADJUSTABLE STRUT
G. B. C. DRUM STEERER
KLITZEN RADIO SETS

Sent free to Boat Owners
Send for your copy at once

GEO·B·CARPENTER & CO.
MARINE SUPPLIES
Sailmakers and Riggers
200 W. Austin Av. Chicago

The Cook's Opinion of the Galley

(*Continued from page* 84)

stomachs who can break away from a lifelong regimé of more or less regular, hot meals and live for a month or two on raw tomatoes and ginger ale, but most of us weak mortals come home from such a spree looking a trifle wan. And with a little thought, on board a boat you can serve such delicious, and at the same time, wholesome, meals!

Of course half of the cook's success depends upon the type stove he (usually she) uses—and the stove question brings me back to Emma. Brings me back reluctantly, because Emma's stove was *awful!* Awful is not strong enough, that stove was maddening, a torment, a nerve racker. I don't know why it did not ruin my disposition—maybe it did. In the first place, it was, presumably, a two burner alcohol stove. I say presumably, because one burner was always out of order. The first time we saw Emma we knew that stove was a risky proposition, so before we boarded her in June we ordered a kerosene stove sent down. But when the kerosene stove arrived, shiny and black and beautiful, it was so big there was not room in the galley for stove and Cook at the same time. One or the other had to go, and the Captain, after looking me over, and then the kerosene stove, did me the honor of disposing of the stove. Having made this decision, we felt in honor bound to hang on to the original alcohol outfit, which we did, through six solid months of cruising. By the end of the second summer I had caught on to most of its tricks, and by patience and persuasion could tease a fairly good meal out of it. Alcohol stoves are all right when once you learn to keep them really clean. The first can of alcohol is usually clear and good. Then you get it refilled, and refilled again, and rust begins to accumulate. One morning when filling the stove you forget to filter the alcohol, and then the trouble begins! That is if it hasn't begun long ago, the very first morning of the cruise. If you have an alcohol stove, take a friendly hint from an old timer, and clean it the very first thing when you come aboard for your cruise. Do not wait until next morning to light it for the first time, particularly if you are married, and cruising alone with your life's partner. These before breakfast stove cleaning parties make fertile material for the divorce courts. It happens this way:

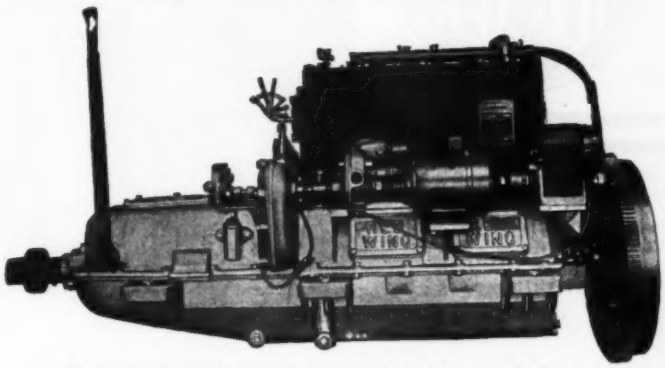
You and your wife, gentlemen, or you and hubby, ladies, come out from town the morning of your vacation, eat lunch on the way, and climb aboard the old boat with your suitcase, a dozen bundles—among them perhaps a dozen eggs and a bottle of milk—sometime in the afternoon. You shove the tender overboard, rummage round the boathouse for your oars, your anchors, your running lights, and the rest of the things you are sure somebody has stolen during the winter. As you stagger back to the boat with these you say to yourself, "Now, I'll just stow this stuff forward, and then I'll get after that stove." But when you climb aboard, gentlemen, you find your wife in the cabin holding up the middle floor board and gazing mournfully at half a foot of oily brown water in the bilge. You make a remark, a pungent remark; you apply the pump, it leaks at the foot. More remarks, while your wife goes up forward to wash her hands. Just as the pump begins to work a female voice forward says, "George, there is something wrong with the plumbing up here. I can't get the water to run out of the sink. It must be rusty." And you say, "Oh, hang the sink! Let's go for a swim!" Half an hour later you climb aboard, to find your wife, who came out before you, dressed, and tinkering with the stove. You say, "Pretty good to feel salt water again, old girl!" And she says, "Great! Don't you think we'd better try the stove? Seems to me it wouldn't work the first time we tried to light it last year." And you say, "Great Scott, woman, I'm *hungry!* Come on uptown and eat, and then I'll clean your stove for you." So it goes, and morning comes, and you haven't slept very well because you are not used to the feel of a bunk, and you want your coffee. Your wife is already up; you hear her striking match after match, and you groan and roll out of bed, because you know she can never get that stove going by herself. Women, you reflect, never can get things going, all they can do is worry about them. And so, as we remarked before, and so the fun begins!

Of course the kerosene stove people are spared all this frightfulness; but, after all, you can laugh at anything on board ship, and what would a cruise be, without a few minor calamities? There would be nothing to tell about when you got home! But like every other cook, I have my dream galley, and in my dream galley all the utensils are perfect, and nothing goes wrong. About the exact location of my dream galley I cannot always be exact, because my dream boat so often changes her shape. Sometimes she is an auxiliary yawl, sometimes a Friendship sloop, and very often

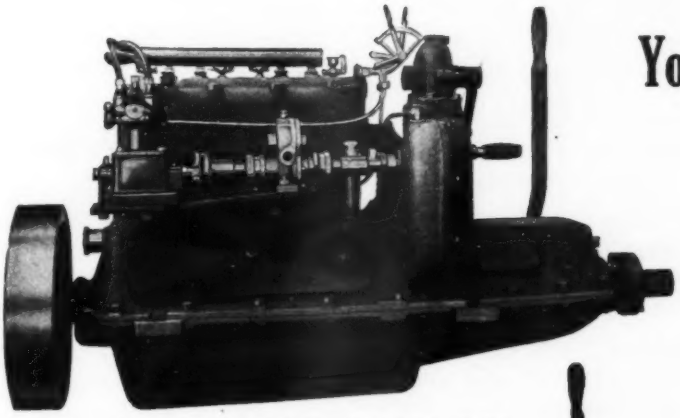
(*Continued on page* 92)

Red Wing Thorobred

THE MOTOR WITH POWER TO SPARE



New Models F 28-36 H.P. and B 32-40 H.P. with pressure oiling system
Paragon reverse gear running in oil bath

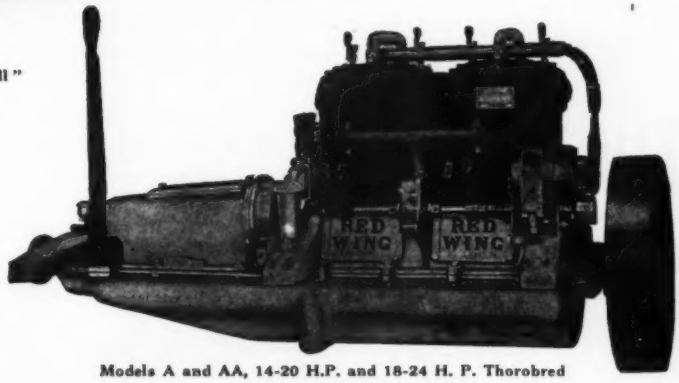


Model D, 10-14 H.P. Thorobred "Baby Doll"

Your Marine Engine Needs

Can be supplied by one of our five THOROBRED engine sizes, which we manufacture from 10 to 40 H.P. From the 10-14 H.P. THOROBRED "BABY DOLL" for the smaller boats, to the powerful 32-40 for the larger boat.

Write today for the THOROBRED 4 cylinder Marine Engine Catalog.



Models A and AA, 14-20 H.P. and 18-24 H. P. Thorobred

RED WING MOTOR CO., Dept. B., RED WING, MINN., U. S. A.

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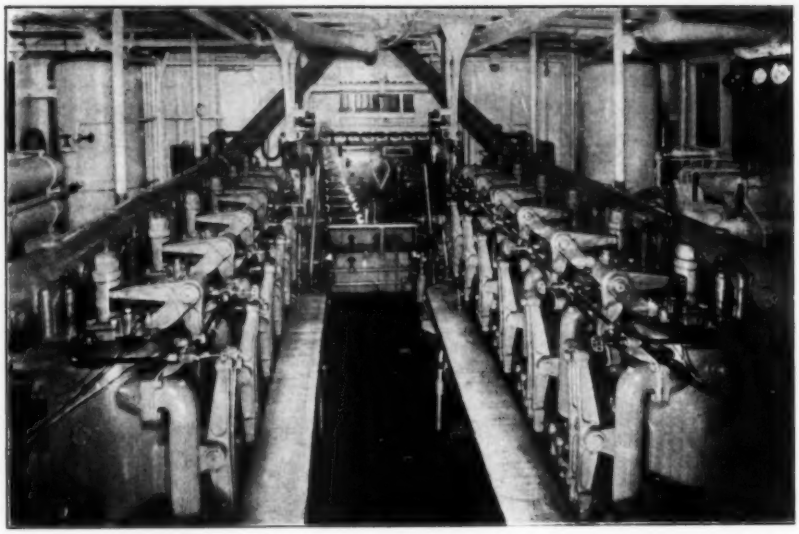
Western Distributors: Pacific Net & Twine Co., 1213 Western Ave., Seattle, Wash.; Emil Aarup, 5110 S. Main St., Los Angeles, Cal.

Canadian Distributors: Ditchburn Boats, Ltd., Gravenhurst, Muskoka, Ont.; Semmelhaack-Dickson Co., 333 St. James St., Montreal, Que.

NELSECO



The engine room of ZALOPHUS showing the two six-cylinder 180 B. H. P. NELSECO DIESEL engines.

ZALOPHUS signalizes the development of a new type of pleasure craft. Larger and more able than the typical motor houseboat—far roomier and more economical to operate than a conventional yacht of its size—this houseyacht combines the comfort and accommodations of the former type with the seaworthiness and cruising ability of the latter.

NELSECO DIESEL power makes such a boat possible and practicable. It provides the compactness and cleanliness of the internal combustion type with the reliability of a slow speed engine. Its cruising range without refueling is much greater than gasoline and steam. The operating cost is about *one-third* that of a steam engine and *one-tenth* that of a gasoline engine.

NELSECO MARINE DIESELS are built in sizes of 120 B. H. P. and upwards. Latest bulletins and prices on request

THE NEW LONDON SHIP AND ENGINE CO.

GROTON, CONN., U. S. A.

The 125 ft. steel houseyacht ZALOPHUS recently completed by Consolidated Ship-Building Corp. for John Ringling of New York. Designed by Henry J. Gielow, Inc.

Advertising Index will be found on page 138

QUALITY Piston Rings

CAPACITY

More than 12,000 Rings Each Working Hour

Shipments of *QUALITY* Piston Rings, during the first four months of 1923, have broken all previous records.

1923	Shipments
January	1,946,498
February	2,067,273
March	2,273,714
April	Over 2,500,000

The Piston Ring Company

Muskegon, Michigan

IT'S THE DEMAND

EISEMANN

REPUTATION

WHEN your boat is plowing through the high ones the reputation and reliability of the Eisemann Magneto on your engine gives a sense of confidence and security.

For 22 years Eisemann has been the pioneer of magneto advancement, dating back to 1901 when Ernst Eisemann created the first jump-spark magneto.

Today the repeated and increased orders from Truck, Tractor and Engine Manufacturers demonstrate how much internal combustion engine advancement owes to the Eisemann Magneto. Thus building higher and higher the Eisemann reputation for reliability.

Submit your ignition problems to our Engineering Service. No obligation is entailed

EISEMANN MAGNETO CORPORATION
BROOKLYN, N.Y.
DETROIT CHICAGO SAN FRANCISCO

The Cook's Opinion of the Galley

(*Continued from page 88*)

a rakish, bugeye schooner with leg of mutton sails. Over all, she is between thirty-two and forty feet, and she is broad in the beam. One thing I know, that my galley will be aft of the main cabin, but nowhere in sight of the engine. Standing in my dream galley, I can look forward and aft, but I cannot so much as see the engine, or smell the engine, much less touch it or fall over it, as I too often have in real, everyday galleys. I shall put my skylight, not directly over the stove, because then the breeze blows the fire out, but nearby, over the sink. Anybody else would, I suppose, have it over the ice box, but I am not going to have an ice box, at least not the kind with ice in it. I shall have one of those porous, earthenware things, just big enough for two quarts of milk and a pound of butter; I forget its name, but it looks like an Esquimo igloo, and you dip it in water and keep it in the breeze à la flower pot.

As for my pots and pans, they will be few, but what there is will be white enamel, including a small frying pan and the coffee pot. I shall insist upon this kind of a coffee pot; I have tried granite, aluminum and tin, and none is so easy to clean as the enamel. A big iron skillet for fish, aluminum knives, forks and spoons, enamel cups and plates—with a few dozen paper plates for certain fried dinners that won't wash off enamel plates with cold water—and a deep dish for baking. For although my dream boat is of fried dinner dimensions, my stove has a portable oven. Not for cakes and pies, far be it from this Cook to bother with dough and batter when Ward's cakes, etc., are available, but for—well, did you ever try boiled rice and tomato and chopped peppers in a deep dish with cheese on top? I used to make it, and other stirred up dishes, in the frying pan, but it would be much easier in a small oven. And think of what you can do with clams in an oven!

Once I get my dream galley, I am not going to be fussy about it. I mean I shall not be like black Andrew, and keep people out. Anybody can fuss around in it, and welcome. Only upon one point I put my foot down. If the Captain, or a guest, or anybody, from Chief Justice Taft to Jack Dempsey (should I ever have the honor to sail with either of these gentlemen)—if any mortal man comes down and takes the knife out of my galley drawer to whittle with I will fly at him and bite him. The cook must have one sharp, strong knife, and it must be inviolate.

Not long ago I had a conversation about galleys with a prominent yacht broker. We found the subject inexhaustible, and the yacht broker said he would tell the rest in a letter He did, and he began his letter, which was a long one, with this piece of sound and pungent wisdom:

"First and foremost," he said, "I think the galley should be *on the boat*, don't you? So many people keep it at the nearest hotel!"

NOTE.—Mrs. Bowen has made no reference in her article to the gasoline vapor stoves such as the Cruiser Galley Stove, manufactured by the Prentiss-Wabers Stove Company, in one-, two- and three-burner sizes. However, we believe one could not choose a finer galley stove. They are sturdily built of the strongest materials. They burn ordinary motor gasoline with a hot, steady, blue flame which a gale of wind can't blow out. There is no more danger than when using kerosene or alcohol.—*Editor.*

Improvements in 1923 Standard Evinrude

A number of new improvements have been made in the Standard 2 h.p. single cylinder Evinrude Motor which, the manufacturers claim, make this 1923 model the greatest value in the field.

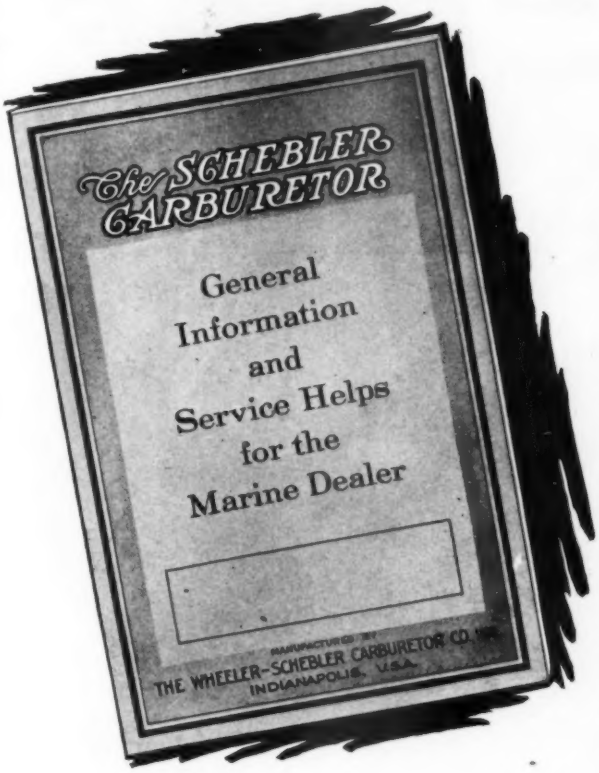
The Evinrude Easy Starter, which heretofore has been supplied as an accessory and which practically eliminates starting delays, has been made standard equipment. The same is true of the steering spring, a clever little device which tends to keep the steering lever in the center position, holding the boat on a straight course without any attention from the operator.

To make this single cylinder Evinrude smoother operating than ever, the running balance of all 1923 propeller and flywheels has been perfected.

The old style grease cup on the upper bearing has also been replaced by an oil-kipp or pressure oiler.

Further information concerning these mechanical improvements in the 1923 Standard Evinrude may be obtained by writing the Evinrude Motor Co., Milwaukee, Wis.

SCHEBLER The Heart of the Motor CARBURETOR



Every Marine Dealer should have a copy of this Book.

Marine Dealers

Write for this Book!

Schebler Carburetors dominate the marine motor field. At the Annual Boat Show Schebler equipment was found on more engines than all other makes of carburetors combined. Through years Schebler has proven its superior performance in every way in the marine field.

Schebler engineers are always in close touch with marine motor builders, for new developments and better performance. There is a Schebler for every type of marine motor for the best carburetion.

Schebler Service—Boat owners find expert mechanics everywhere who know Schebler service and where Schebler carburetors and parts are available if necessary.

Scheblers have stood the test in all kinds of hard service and under all weather conditions with good results. Built of heavy material Scheblers are dependable, whether on the out-board motor or the large high speed heavy duty motors. Scheblers give most efficient carburetion.

Marine Dealers—Write us for this book today. Dept. N. Ask about the Schebler service agreement. Big money. Schebler distributors in prominent cities carry a full line of carburetors and necessary parts.

Wheeler - Schebler Carbureter Co.

Indianapolis, Indiana

DuBRIE

4 Cycle
5 H. P.
Weight
100 lbs.

The World's Most Flexible Marine Motor

$97 50 complete

Here is a 4 cycle 5 h. p. marine inboard motor at a remarkably low price, and one that possesses the merits of satisfaction looked for only in larger, high-priced engines. Designed by Stanley R. DuBrie, famous for 25 years as one of the foremost designers of marine engines, and built under the direct supervision of an equally well-known builder of marine motors, is it any wonder that here at last is the ideal small boat inboard motor? Waterproof!—*Absence of vibration!* (The motor is *in* the boat, not *on* it)—Economical gas and oil consumption!—Serviced with 44 Ford parts!—are among the many big features of this wonderful DuBrie motor. Immediate delivery. Send now for our complete catalog!

Adopted by the Makers of "MISS AMERICA"

Chris. Smith & Sons Boat Company of Algonac, Michigan, use this DuBrie motor in their 18-foot stock runabout. ***You can build this identical boat from complete set of plans furnished free with every motor.*** (Plans alone $15.)

Specifications

1 cylinder (seasoned gray iron, with improved cooling system). 4 cycle 5 horsepower (Bore 3¾"—stroke 4").
Bosch magneto, with impulse starter or battery system, optional.
Hot spot manifold (operates perfectly on low grade fuels).
Propeller (2-blade weedless or 3-blade regular, optional).
44 Ford parts can be used in servicing.
Holley or Kingston carburetor, optional.
Economical—will operate 10 hours on 3 gallons of gasoline.
Speed—7 to 10 miles, depending on boat.
Waterproof.
Weight 100 pounds.

Dealers! Boat Builders! Special Proposition!

DuBRIE MARINE MOTORS

7452 JEFFERSON AVE. EAST **DETROIT, MICH.**

Louisiana Distributors: Stauffer, Eshelman & Co., Ltd., New Orleans, Louisiana

Advertising Index will be found on page 138

Hacker-Craft

The Dolphin Boat

23′ Long 6′ Beam

The New Hacker Creation and A New Standard Of Value

All mahogany natural finish boat. Seats 8 people. Double Cockpit. Speed up to 25 M. P. H.

$2750.00 F. O. B. DETROIT

DESCRIPTIVE CIRCULAR READY FOR DISTRIBUTION

DESIGNS

We furnish many prospective builders with our tested plans and specifications covering runabouts, hydroplanes and cruisers. Why not you?

Write for our book and prices

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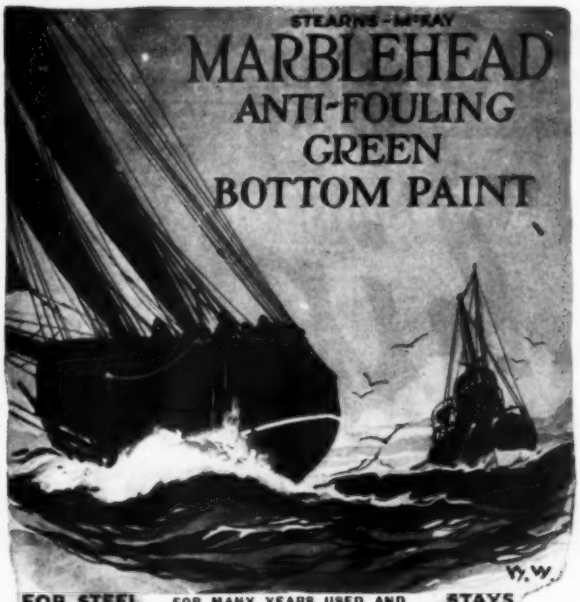


FOR STEEL OR WOOD

FOR MANY YEARS USED AND HIGHLY RECOMMENDED BY GEORGE LAWLEY & SON CORPORATION

STAYS CLEAN

Practically all their new boats the past year were painted with Marblehead Anti-Fouling Green, including the

INTERNATIONAL 6 METER RACERS

ALEXANDER GRAHAM BELL

used Marblehead Green for years in his Experimental Boat Department, where amazing speed results were obtained.

FOR CRUISING AND RACING YACHTS AND VESSELS

The Most Powerful Preventive of Marine Growth and Destructive Borers. A Hard Slippery Finish. Lasts a long time and is INVALUABLE FOR RACING On Cruising Yachts saves its first cost many times over in expensive repairs and repainting work.

It Has No Equal For Tropical Waters As A Protection Against Teredos

ALL FIRST CLASS DEALERS AND YACHT YARDS

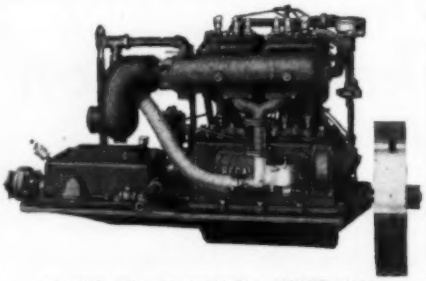
STEARNS-McKAY MFG. CO., Marblehead, Mass., U. S. A.

DEPENDABLE POWER PLANTS for BOATS

ESTABLISHED MORE THAN TWENTY-TWO YEARS

NEW LOW PRICE LIST NOW READY

We cut the cost but QUALITY remains unchanged.



14 H.P. Weight 1050 lbs. PRICE $575

REGAL MARINE ENGINES

are made in 17 sizes ranging from 2 H.P., weight 130 lbs., to 100 H.P., weight 8000 lbs., one to eight cylinders. Built to operate with either gasoline or kerosene and throttle to slow working speed.

KEGALITE ELECTRIC LIGHTING PLANTS

with air cooled motor and direct connected generator. 16 cell storage battery. Very compact and clean in operation. $400.

Made for homes, stores and boats.

Write for catalogues

REGAL GASOLINE ENGINE CO.

74-82 W. PEARL STREET COLDWATER, MICH.

The Lure of the Canadian Wilds

(*Continued from page 20*)

the Georgian Bay can be obtained at a nominal cost from the Hydrographer, Department of Naval Service, Ottawa.

It's a far cry from Southern California to the Georgian Bay, but our little family of three, the middle aged writer and wife and twelve-year-old girl, have spent many summers on our Belle Isle in Canadian waters near Sault Ste Marie, and have learned to love the country and the people. For years we talked of cruising the Georgian Bay and Trent Waterway. In the fall of 1921 we definitely decided to go, and to make the start from Buffalo, N. Y. Our new cruiser Wananishe, built by Richardson at North Tonawanda is a Hand V bottom 30-feet in length, 8-feet 6-inches beam, equipped with every up-to-date convenience, including a glass front to the cockpit awning which we found to be invaluable. The power plant is a Kermath 20 h.p. with electric starter and generator, which we found to be thoroughly dependable. It never failed to respond to every demand made upon it, carried us safely through the various experiences of our long journey without trouble of any kind, and averaging 8 to 10 miles per hour, which is plenty for a cruiser.

We left Buffalo early on the morning of July 2, facing a rather stiff west wind that kicked up quite a sea, but our Kermath was doing fine, steady work and we easily made the run in three hours to Port Colborne, where we secured a pass for the Welland Canal. Being Sunday we met very few boats, passed quickly from lock to lock, often so close together that you run out of one into the next, there being twenty-six in the last eight miles. Evening found us just below Lock No. 2, where we tied up for the night. Early the next morning we ran through Lock No. 1 to Port Dalhousie, made a short stop there and then for Toronto, setting our course by compass across Lake Ontario. Reports had prepared us for some rough water, but were agreeably surprised with a light wind and long rollers that made it a delightful trip. The navigator was also pleased by hitting the harbor entrance squarely in the eye, and noon found us tied up at the dock in front of the Harbor Administration Building. We spent the afternoon in the city, and then ran across and tied up for the night at a pretty place among the islands near the Royal Yacht Club. The next day's run with pleasant weather and rather quiet water, with the usual long rollers, brought us 60 miles to Port Hope, a quaint old town between two hills. Leaving there at eight the next morning we had another delightful run down the lake, and through a shallow bay, by a well buoyed passage that twisted and turned, but finally brought us to the west end of the Murray Canal. At the second of four swing bridges we were asked to register and informed that there were no locks. We found it a very pleasant run between low banks and through cultivated fields with frequent houses close by, and soon after noon ran out of the canal into the Bay of Quinte and across to Trenton about a mile away.

We landed there, but finding it a holiday decided to run on up the canal. At the first lock we secured a pass from the lock master, Michael LaFrance, a fine fellow and the right man in the right place to give information about the waterway. Here we picked up our dinghy, which proved to be a nuisance, as we found little use for it in the waterway, and most of the time carried it on the forward deck. We passed up six locks, through a beautiful rolling country and tied up for the night on the side of the canal near a big dam at Frankford. The next day we ran for a time through a section of swamp and lowlands with lovely water lilies along the way, and some fine hilly country; through five locks and reached Campbellford, a busy little manufacturing place. We tied up at the town dock, where a charming lady surprised us with a gift of flowers, and told us that it was their regular custom with boats passing through. An early start the next morning brought us at noon to Hastings, and as the wind was blowing pretty hard from the S. W. we decided not to cross Rice Lake that day. We ran on and anchored for the night in a small bay near the lake. About 9 P. M. the wind shifted and blew a gale with rain from the N. W. We got out our spare anchor, eased up the strain occasionally with the motor and rode it out all night. At daybreak, the wind being some lighter, we pulled up the hooks and ran out into Rice Lake. Picked up a lot of weeds in a shallow place, had some trouble finding the entrance to the Otonabee, a narrow, crooked river, running through lowlands, and reached the thriving manufacturing city of Peterborough at noon. We tied up at the town dock where the harbor master kindly attended to our wants. Took the street car up town and met Mr. Fraser, secretary of the Board of Trade, who furnished us with charts of the upper waterway. At mid afternoon we were lifted 65 feet in the wonderful hydraulic lock, passed through Stoney Lake with its beautiful rocky islands and hunplace just above the lock in Lakefield. The next day we passed through Stoney Lake with its beautiful rock islands and hun-

(*Continued on page 100*)

Makes Any Engine More Dependable

They All Use Bosch

Buffalo
Cady
Caille
Doman
Du Brie
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Erd
Fay & Bowen
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Kermath
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Lathrop
Liberty Drive
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Ray
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Scripps
Speedway
Stearns
Sterling
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Wolverine
and many others

It is much safer—and more economical—to equip your motor boat with the Bosch High Tension Magneto.

It needs no battery—uses no coils—and has no complicated make-and-break mechanism. It is a self-contained ignition unit that needs practically no attention, and always insures maximum power, greatest speed and longest service.

Don't take chances with poor ignition. A single engine break-down may bring serious trouble and danger—and necessitate expensive repairs.

There is a Bosch Magneto for every type of gasoline engine—insist on Bosch and be sure of getting dependable and efficient service from your marine engine.

600 Service Stations–Expert Service Everywhere

AMERICAN BOSCH MAGNETO CORPORATION

The World's Largest Producer of Magnetos

Main Office and Works—Springfield, Mass.

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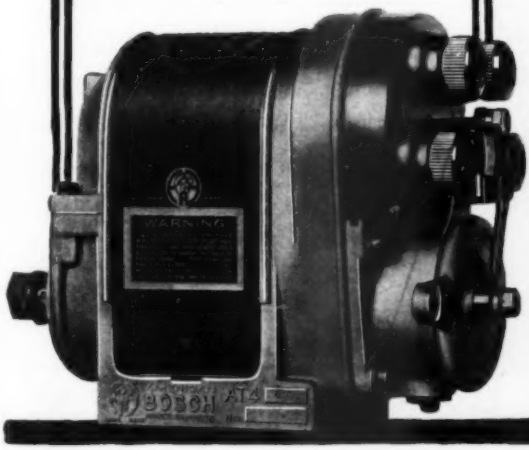

BOSCH Magnetos

(They Need No Battery)

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Books of Plans of Cruisers, Runabouts, Auxiliaries, and Dinghies

THE BEST HOW TO BUILD SERIES EVER PUBLISHED

Volume I

Designs of Ideal Motor Boats and How to Design a Motor Boat

This volume describes in detail how to design a motor boat. It also contains complete plans of 30 Cruisers, Runabouts and Auxiliaries. The plans include lines, table of offsets, interior plans, profiles, construction details, etc. There is no book published at the present time which describes in every day language the details of designing a boat according to your own tastes. The plans of Ideal Cruisers, Runabouts and Auxiliaries are complete in every particular. They include the best of the plans published in MoToR BoatinG during the past several years. The plans include boats of from 20 feet in length up to 40 feet. The drawings are all to scale and large size.

Foreign Postage, 50 cents extra. **$2.00**

Volume II

How to Build Sixteen Ideal Motor Boats

This book gives complete information for building the following boats:
10 foot mark boat, 12-foot outboard motor boat, 12-foot speed boat, 12-foot bangabout, 13-foot sea skiff, 16-foot sharpie, 18-foot runabout, 20-foot monoplane 20-foot hydro-runabout, 20-foot knockabout, 20-foot tunnel stern, 22-foot V-bottom runabout, 25-foot V-bottom cruiser, 25-foot round-bottom cruiser, 28-foot cruiser (Consort II.)

Every article is fully illustrated with working drawings and no information or instructions are missing which would be of assistance to the novice to build his own boat.

All of the Ideal Books are printed in large type on extra fine paper. They have been edited by Charles F. Chapman, Editor of MoToR BoatinG.

Foreign Postage, 50 cents extra. **$2.00**

Volume III Ideal Series

Twelve Complete V-Bottom Designs

By William H. Hand, Jr.

Plans Prepared Expressly for MoToR BoatinG

This new book is the most valuable ever published for the amateur builder or anyone desiring to have a V-bottom boat built by his own builder.

The plans contain outboard profile, lines, inboard, construction and interior arrangement plans, sectional views and complete table of offsets. Accompanying each design is a description of the boat and a full set of specifications taking up step by step each feature of the boat's construction, how it should be built and the proper materia to use.

Plans and specifications of the following boats are included: Edith, a 15-foot runabout; Jane, an 18-foot runabout; Katherine, 30-foot cruiser; Dorothy, a 25-foot runabout; Zenith, a 25-foot cruiser; Cyclone, a 36-foot auxiliary; Eclipse, a 40-foot express cruiser; Magnet, a 28-foot cruiser; Tornado, a 45-foot auxiliary schooner: Broncho, a 29-foot cruising runabout; Shark, a 21-foot utility runabout; Claire, a 36-foot express cruiser.

Price of Twelve Complete V-Bottom Designs **$2.00**
Foreign Postage, 50 cents extra.

Volume IV Ideal Series

Twenty Easy-to-Build Motor Boats

By William J. Deed and others

A New Book of Small-Boat Plans and How to Build Them

These plans have been prepared especially for MoToR BoatinG and are complete in every particular. They are in detail enough to permit building from direct, either by the amateur or professional builder. No part of the boat's design or construction has been omitted or slighted.

Read the contents: Chum, a 16-foot Motor and Sail Craft; a 9-foot Easy-to-Build Dinghy; Nomad, a 34-foot Cruiser; a 9-foot Sharpie; Porpoise, a 20-foot Auxiliary Cat Boat; Kingfisher, a 14-foot Fishing Skiff; Shrimp, a 25-foot Hampton Boat; Flattie, a 16-foot Utility Boat; Dolphin, a 34-foot Tunnel Stern Cruiser; a 9-foot Dory; an 8-foot V-Bottom Tender; Penguin, a 25-foot Auxiliary Sloop; Sea Gull, a 41-foot Auxiliary Schooner; Whale, a 20-foot Cruiser that's a Real Cruiser; Tarpon, a 29-foot Raised Deck Cruiser; Alligator, a 28-foot Tunnel Stern Cruiser, a boat that will run in water little deeper than a heavy dew, and Mud Turtle, a 36-foot Stern Wheel Motor Boat. Rookie, a 20-foot Auxiliary Sloop; Nautilus a 40-foot Tunnel Stern House Boat; Victory II, the Cruising Champion. Complete Bills of Material for Building.

Book is printed in large type, on fine paper, and handsomely bound in cloth.

Price of Twenty Easy-to-Build Motor Boats **$2.00**
Foreign Postage, 50 cents extra.

Price of all four books of Ideal Series (Vols. 1-4) if ordered together **$6.00**
Foreign Postage, $1.00 extra.

Volume V Ideal Series

Piloting, Seamanship and Small Boat Handling

By Charles F. Chapman

This book has been published in response to repeated requests for us to bring out in complete book form the wonderful illustrated course in Piloting, Seamanship, and Small Boat Handling which has been appearing regularly in the issues of MoToR BoatinG since February, 1921.

Profusely illustrated with nearly 300 Cuts and Diagrams.

MoToR BoatinG's Correspondence Course proved to be the most successful and most popular feature ever undertaken by a boating magazine. Thousands of readers became better boatmen by studying this course. Now you will want it in permanent book form to keep aboard your boat for reference and guidance.

This course was prepared with an entirely new idea in text book or correspondence instruction. Instead of page after page of dry text matter with only occasional illustrations, it is composed mainly of pictures, drawings, photographs, charts and diagrams covering every situation and every point, with the purpose of each picture clearly explained by a concise and simple title.

You will find this book more enjoyable and easier to understand than any text book you ever read. You will find it correct and authoritative because it has been prepared by experts with years of boating experience and every necessary reference at hand.

You will find it easy to read and easy to remember because each chapter is reviewed by pertinent questions which reveal your understanding of the lessons.

Price of Piloting, Seamanship and Small Boat Handling **$2.00**

Foreign Postage, $1.00 extra.

Note:—Volume V is not sold in combinations with the other books of Ideal Series.

MoToR BoatinG, 119 W. 40th St., New York, N. Y.

Advertising Index will be found on page 138

1923 Gray Motors Await You

Neat, compact, every moving part enclosed, you'll find the 1923 Gray as handsome and as efficient as any motor of its size ever built, regardless of price

Your boat and your pleasure is deserving of a better motor, one on which you can place the utmost dependence.

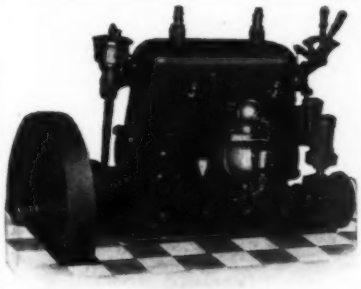
You not only get dependable service, but you get in a Gray, a smooth, quiet, clean, operating motor that tends to give you that pleasant feeling of relaxation, you seek.

In small cruisers up to 35 feet—Runabouts 20 to 30 feet and work boats the Gray 4 cylinder valve-in-head has given their owners better Economy and more speed than any other type of the same bore and stroke.

We don't ask you to rely entirely upon our statement but will gladly put you in touch with these owners.

What Engine of equal cylinder displacement do you know of that will turn a 14" dia. x 20" Pitch Hyde type Wheel constantly 1650 revolutions, or a 20" dia. Hyde Wheel, 900 revolutions.

Note the rigid one-piece base with Reverse Gear enclosed. The gear is automatically lubricated with positive gear pump that lubricates all other internal working parts of the engine—no grease cups or thick transmission oil used.



One of our most popular selling engines is the 2 cylinder 6 to 8 H. P. A most powerful and durable one, occupying less space for the power developed than any other, that we know of.
Its *easy* starting, and *dependable* operation coupled with its wonderful economy, recommends it to those who are considering a motor for a pleasure boat 16 ft. to 24 ft. or for a fish or work boat up to 20 ft. requiring 6 to 8 H. P. For auxiliary power in sailing boats up to 35 ft. this little engine is a great favorite.

Oil filler is conveniently located on *top of the engine* with duct leading to Crank Case. Rocker arm shaft is hollow and automatically supplies oil to Rocker Arms. Oil is forced under pressure to the three main bearings, and to the connecting rod troughs.

In brief, the Gray Oiling System leaves nothing to chance. It is unfailing at all engine speeds, and all oil is kept inside the engine, and not thrown around the boat or on its occupants.

Due to the special design of the Cam Shaft, push rods and rocker arms, scarcely a sound can be heard with the ear close to the engine.

The smooth, quiet operation of the new Gray improved Valve-in-Head at all speeds from 200 to 2000 would compare favorably to an electric motor. It runs most economically on low grade gasoline and satisfactorily on kerosene.

Note The Big Crankshaft

The diameter of the main bearings are: Front 2⅛". Center 2 1/16". Rear 2". The lengths are 3⅜", 2½", 2½" respectively. Crankshaft is 40-50 point carbon steel forging, heat treated and ground.

Special attention is given to the balancing. The shaft is put in rotative as well as static balance on an Akinoff Dynamic Balance Machine, reducing vibration to a minimum.

Bosch Magneto with Impulse Starter, or Bosch two unit Starter and Generator is used.

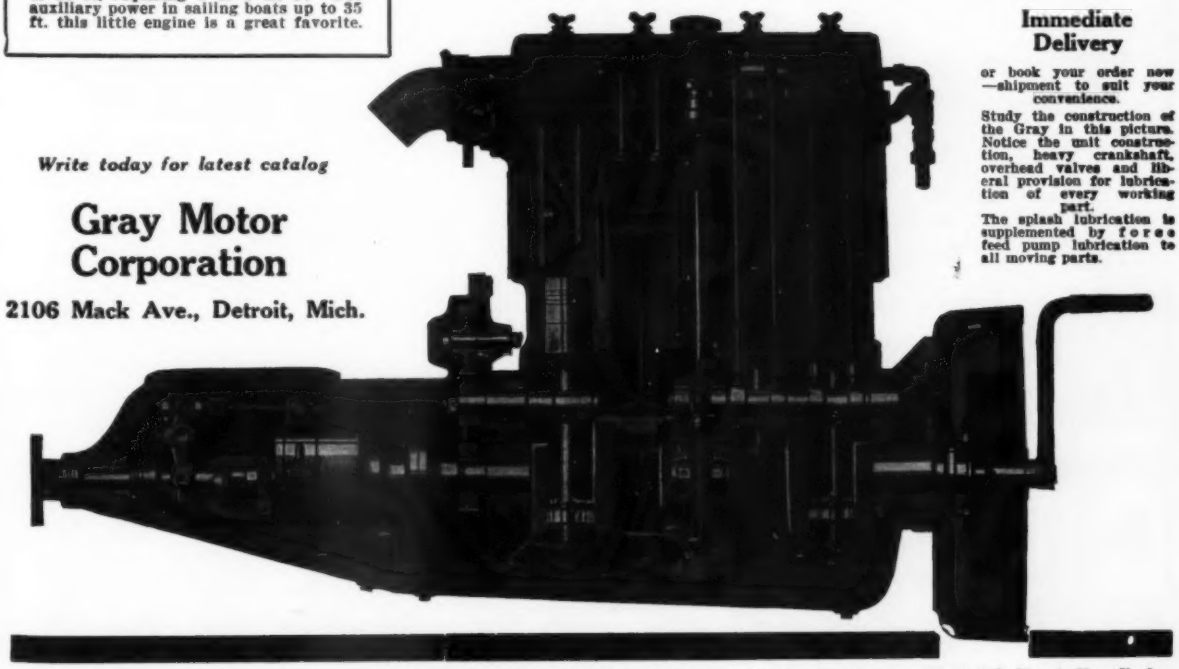
Gray Two-Cycle Motors are built in models from 3 to 8 h.p.

Immediate Delivery

or book your order now—shipment to suit your convenience.

Study the construction of the Gray in this picture. Notice the unit construction, heavy crankshaft, overhead valves and liberal provision for lubrication of every working part.

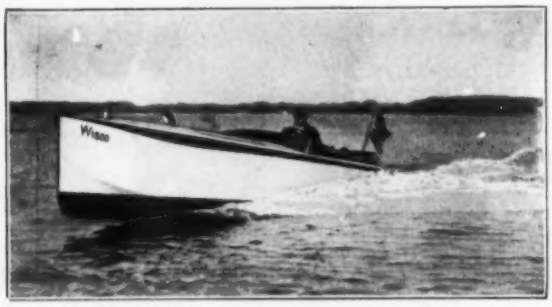
The splash lubrication is supplemented by force feed pump lubrication to all moving parts.



Write today for latest catalog

Gray Motor Corporation

2106 Mack Ave., Detroit, Mich.



Don't Wait Until The Season Begins

Have a snappy new runabout all ready and thoroughly tried-out just ready to launch at the very beginning of the season. By placing your order for a runabout with the Racine Boat Company immediately, you will be assured of a fine boat that will not be rushed through at the sacrifice of quality, workmanship and performance.

RacineWis fast V Bottom Runabouts are the last word in construction, with quality second to none. All of those refinements which are the indication of craftsmanship are very much in evidence on RacineWis Runabouts—from the perfect modeling of the Hacker designed hull down to such exclusive details as the new side fluted ventilators.

Built in standardized lengths of 19, 22½, 25 and 30 ft.

The BADGER OUTBOARD

Especially Designed for Outboard Motors

A real, scientifically modeled staunch boat which puts the outboard motor combination in the motor boat class. Absolutely rides on an even keel when fully loaded. Outboard motor will not drop stern and raise the bow.

Ideal as a high grade all-around dinghy.

Prices and specifications gladly furnished on all types of boats

Racine Boat Company

1809 Holborn St.
RACINE, WIS., U. S. A.

Boat Building Pioneers
Makers of Fine Craft

RacineWis
TRADE MARK REG.

The Lure of the Canadian Wilds

(Continued from page)

dreds of summer cottages, where great care must be used as the buoys are confusing. Then on through the beautiful chain of Lovesick, Buckhorn and Pigeon lakes, arriving at Bobcageon. Here, much to our regret, we were obliged to part with our roustabout, Mr. Rand, a fine companionable young man and able seaman, who joined us at North Tonawanda, N. Y. The rest of the waterway trip was made alone with our little family of three. A high wind the next day gave us rather a rough passage through Sturgeon Lake, a pretty sheet of water. At the north end we ran into a small river with steep rocky banks, and just before noon arrived at famous Fenelon Falls, which charmed us so that we remained below the lock until the next morning. That day's run took us through Cameron and Balsam, two lovely lakes with summer cottages along the shores. Then on through the canal to Kirkfield, where we made our first drop of 48 feet in another big hydraulic lift lock. Five more locks down brought us to Gamebridge, where we tied up just below the last lock before reaching Lake Simcoe. A big storm with high wind and rain came up in the night, but the morning was clear, which gave us a quiet pleasant trip across Lake Simcoe, past Orillia and through beautiful Lake Couchiching. By following the canal course we missed Washago and passed through the lock into the upper Severn River. At this point we ran a little way up the river to a sleepy little village called Severn Bridge, which we found so quiet and restful that we laid at the dock there for two days.

Leaving early in the morning we ran down the beautiful, winding Severn River for some miles, then on through Sparrow Lake and the river again, soon reaching Swift Rapids. There we found only a few houses, a big dam and power house, an uncompleted lock and marine railway. Mr. Paige, Superintendent of the power company, gave us valuable information about the lower river. The next morning Mr. Fountain, Manager of the marine railway, took our boat in charge and in twenty minutes had it safely in the water below the dam. This very efficient service is operated by electric power, and also at another railway eight miles further down the river at Big Chute, where the drop is steeper and the service not quite so efficient. About a mile below there, and around an elbow bend, is a dangerous place with swift water, and fearing that it might be a wrong channel we narrowly escaped an accident. The run beyond there is by courses and shore markers that must be closely followed through the drowned lands. At noon we passed the last lock at Port Severn, were out in the bay and following the buoyed channel, soon tied up at an old dock on Green Island in the Georgian Bay.

The trip from Buffalo to the Georgian Bay, which we made in two weeks, can be easily made in ten to twelve days. We were three weeks loitering along the way in the Georgian Bay, but the run from Port Severn to Sault Ste Marie can be easily made in good weather in six days. We fully expect to make this cruise again, as everyone will who has made it once and caught the inspiration.

The size limitation at the present time is 33-feet in length and 9-feet beam at the railway at Swift Rapids. By July 1, however, new facilities will be in operation which will permit boats of 56-feet in length and 13½-feet in beam to be handled on this railway. The maximum weight which can be accommodated will be about twenty tons gross.

Generator Driven by Silent Chain

(Continued from page 40)

is indicated. Do not use anything else, except perhaps a two-gear connection to the crankshaft which, as a rule, is difficult.

The driving gear is placed in front or behind the flywheel as best suited to the individual case. The driving gear as indicated should have a small projecting pin into a corresponding hole in the flywheel to prevent turning.

A substantial guard should be provided in the front of the chain and gears to prevent accident. A small hole should be provided at about the center of the pulling chain so as to permit lubrication of the chain with stick graphite occasionally. This will prevent the fingers from getting caught in the gears when lubricating.

The arrangement shown consists of a motor at 500 R. P. M. and a generator at 1500 R. P. M. The gears are 6 inches and 2 inches pitch diameter. $6 \div 2$ equals 3. 3×500 equals 1500.

Do not use a belt, it slips and must be made up so tight as to cause too much pressure on the bearings. Do not use sprocket chain, it is noisy, wears fast and is not strong. Use silent chain, it is noiseless, strong and lasts a long time.

It is essential to have the generator on a sliding base with means of adjusting the tension on the chain. This is clearly indicated on the sketch and hardly requires explanation.

A. G. W., College Pt., N. Y.

Advertising Index will be found on page 138

The Sport Twin

—boat-power at its best

WATERWAYS and water-craft offer new joys since Evinrude has perfected this light, quiet, compact, "twin" motor.

One pull of the Easy Starter and your boat glides smoothly away. No noise—just a low hum as the miles slip swiftly astern. No vibration — the steady, unthrobbing drive tells of perfect engineering — exact balance of parts — true Evinrude workmanship.

Both cylinders fire at the same time — neutralize each other — no vibration. Magneto-in-flywheel — no batteries — instant starting. Automatic Reverse. Tilt-Up prevents damage by snags or shallows. Finished in aluminum and nickel—a beauty. *And you know it's right because it's a genuine Evinrude.*

See your sporting goods or hardware dealer today about the Evinrude line of detachable and built-in motors. Write for new catalog.

EVINRUDE MOTOR CO.
178 EVINRUDE BLOCK, MILWAUKEE, WIS.

DISTRIBUTORS:
69 Cortlandt St., New York, N. Y.
780 Commonwealth Ave., Boston, Mass.
211 Morrison St., Portland, Ore.
119 Broadway, Oakland, Calif.

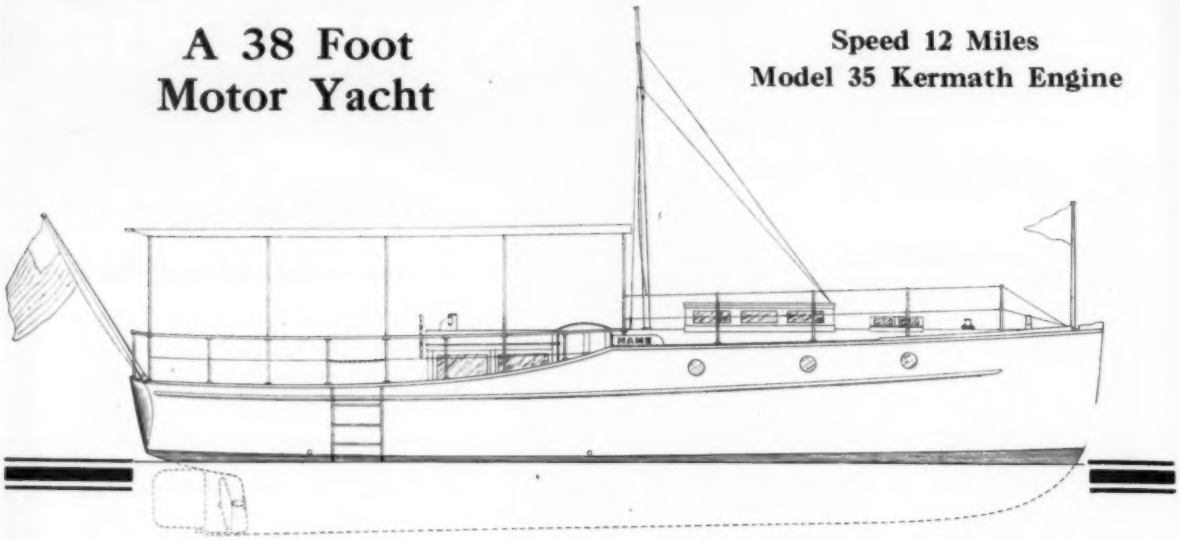
Weighs Only 40 lbs. but it's Sturdy

EVINRUDE

"STANDARDETTE"

A 38 Foot Motor Yacht

Speed 12 Miles
Model 35 Kermath Engine



A Real Standardized Cruiser of Ample Size and Speed

STANDARDETTE is a combination hard to beat. A 38 foot standardized cruiser built by one of the oldest and most experienced Eastern yards, a yard with a reputation for producing fine boats. Equipped with the popular Kermath engine, Model 35, giving a cruising speed of 12 real miles. Electric lights, Bosch electric starter, electric windlass for hoisting anchor and complete equipment required by U. S. regulations.

Standardette is the biggest 38-footer you ever saw. It is a boat for the experienced yachtsman, the man who knows boats and is not satisfied to put up with the limited accommodations of the average small cruiser. It has ample room and every feature you want in a motor yacht.

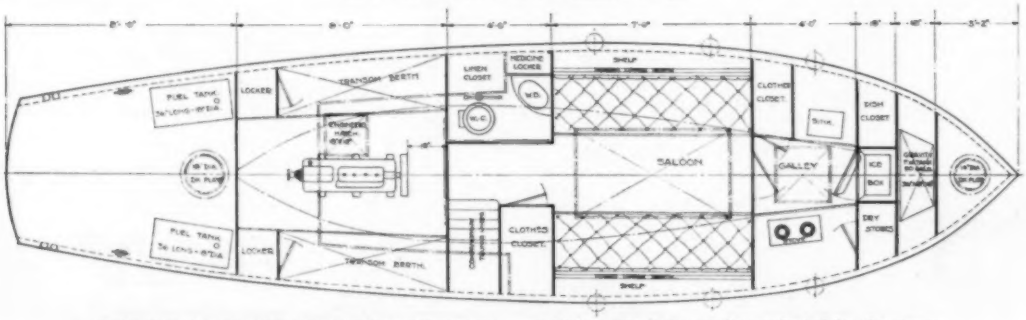
The low overhead of our old established yard, together with thorough standardization in every detail of design and construction with a view to economical production, enables us to quote the lowest price ever set for a boat of this size and quality.

We have several Standardettes under construction. Deliveries commence June 1st. Investigate at once—don't delay if you want a new boat this year. We invite you to call at our yard and see these boats being built. Price, $6750 complete.

Write or phone today for further details

T. A. KYLE COMPANY, Inc., City Island, New York City

TELEPHONE: CITY ISLAND 1418



Study this plan showing the interior arrangement of Standardette. The cabin is big and roomy, light and well ventilated. Finished in French Gray with mahogany trim. Notice the wide seven-foot berths in the main saloon with accommodations for four, as well as berths for two in the after cabin. Notice the big ventilated galley forward, entirely separated from the cabin. Notice the unusually large clothes closets in addition to the usual locker space. The motor can be removed and replaced through the large raised hatch in the main cabin.

All controls are brought up to the steering wheel on deck. The boat can be navigated by the owner alone or by a crew of one. The big flush deck insures comfort and sociability for day parties while the interior accommodations are suitable for extended cruising.

Standardette is built of the best materials obtainable, under the personal supervision of Mr. T. A. Kyle with thirty years yacht building experience. The design is thoroughly seaworthy, proven by former boats produced from the same designs.

Advertising Index will be found on page 138

The Famous 20 H.P. Kermath Rapidly Replacing Big, Expensive Motors

The following letter reveals some great facts. It's a big story of a small motor:

"This engine, which I bought secondhand, through your agent, H. C. Bourke, was used to replace a 4 cyl. 4 cycle 5" x 6", weighing over 1200 lbs., and of the 5 bearing type, equipped with a 13 feed Detroit Oiler and all the trimmings that go with an out and out heavy duty outfit. The boat is a very substantial raised deck cruiser 32' x 8' 6".

"I've had gas engines for the last 12 years and done all my own overhauling in that time, and I was rather dubious about the Kermath '20' standing up to the job. As my old engine was destroyed in a fire and I could not afford a Kermath '40' (which was my Ideal) I thought I'd try a little '20' for a season and keep in the harbor and up rivers.

"When I had the little mill 10 days she had a 15-hour outside run —about 90 miles! That was only the beginning. I did more outside running last year than I did any year with my great big expensive engine. Beyond tightening the clutch once and changing the spark plugs occasionally, the engine received no attention from wrenches until after her last run of the season (in a snow storm on Thanksgiving Day).

"Your remarkable little '20' has lost you a customer for a '40' through its great performance! Perhaps some day if I ever get *both* the craving and the *money* for a new boat I'll find the larger Kermath as satisfactory as my present pet.

"Yours respectfully,

(Signed) "A. Malcolm Irwin."

And so is this true of the entire Kermath line. Every marine motor just right for its job. Each the most efficient—each the most economical — always, of course, dependable.

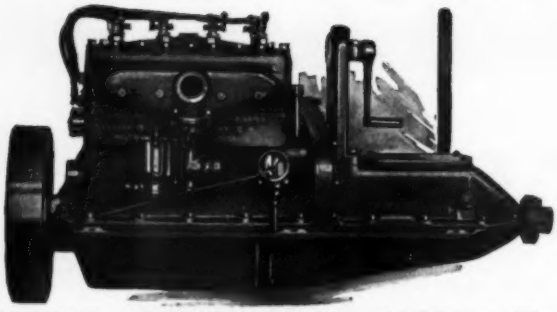
To you, who are about to buy a new engine, we suggest you write for our new catalogue. Spring is here, so today is none too soon to take action.

$135 to $1050

KERMATH MANUFACTURING COMPANY
5879 Commonwealth Ave. Detroit, Mich.

KERMATH

"A Kermath Always Runs"



NIAGARA "Special" 9-15 h.p. Unit Power Plant

The Ideal Power Plant

A REAL four cylinder four cycle unit power plant that gives the easy starting, steady power, flexibility and freedom from vibration that you can find only in this type of engine. Costs no more than most two cycle engines of equivalent power.

Bore 2⅝", stroke 4", Medium duty, 600 to 1100 R. P. M., 12 to 15 H.P. A complete and compact little motor that looks ideal in any boat. Regular equipment includes built-in rear starter, reverse gear, sight-feed lubricating system, carburetor, superheated intake manifold, detachable cylinder head, bronze rotary water pump, covered valve mechanism, with option of coil and timer, magneto or Atwater Kent ignition.

Superior Engines for Larger Types of Boats

THE NIAGARA E-2 is 12-14 h.p., 2-cyl., 4 cycle, for FISHING AND HEAVIER SMALL BOATS.

The NIAGARA E-4 is 20-30 h.p., 4 cyl., 4 cycle, for FISHING LIGHT CRUISERS AND SPEED RUNABOUTS.

The NIAGARA D-4 is 40-60 h.p., 4 cyl., 4 cycle, for COMMERCIAL BOATS, TUGS, ETC.

The NIAGARA D-6 is 60-120 h.p., 6-cyl., 4 cycle, for CABIN CRUISERS, MOTOR YACHTS, PASSENGER AND SERVICE BOATS.

Write today for catalog and prices. State h.p. interested.

Niagara Motors Corporation

206 Niagara Blvd., Valuable Territory Available Dunkirk, N. Y.

In the Land of Society and Sunshine

(*Continued from page 23*)

in northern latitudes, yet they do much to keep interest alive during that time of the year when yachting stories are most eagerly read by everyone who loves the sea. Thus the Miami Beach races really open the yachting season of the country. The announcement of their results only serves to kindle the enthusiasm which is all but ready to burst into flame at the first warm day in the north. So if for no other purpose the Florida races have at least one good object and result.

The program for this year's Southern Championship races at Miami Beach included an afternoon of events on March 17 over the Flamingo course on Biscayne Bay as well as an ocean race for express cruisers from Miami Beach to Havana, Cuba, a distance of approximately 235 miles. The former was carried through as scheduled. However, the race to Cuba was started, but none of the craft were able to finish.

The sportsmen of Cuba, under the direction of Rafael Posso of the Habana Yacht Club, raised a purse of $10,000 in cash which they offered to the winners of the Miami-Havana race—$5,000 to go to the first boat to finish, $3,000 to the second and $2,000 to the third. However, even this large prize money—the largest in fact ever offered for any motor boat race anywhere—failed to be attractive when it came to crossing the gulf stream with a good-sized chop on its surface. Five boats started, but one by one they went down and out of the race until only two were left as Key West was approached. These were Gar, Jr., II, owned by Commodore Wood of Detroit, and the express cruiser Altonia II, a Purdy built boat, owned by A. C. Newby of Indianapolis. Gar, Jr., II was leading by miles and miles at Key West,—Altonia II was hardly visible astern. Commodore Wood shut off his power and waited for the Newby boat, the crew of which, when they came up, announced that they had no desire to put out into the gulf stream and make the 100 miles of open sea, work which would be necessary to reach Havana. They stated they would be content to put into Key West and call off the event. It was lucky that this decision was made, as one of the motors of Altonia II developed lubricating oil trouble within the next few minutes, which probably would have forced her to put back had an attempt been made to cross the stream.

Part of the program for the Cuba race provided for a 75-mile race off the City of Havana between the express cruisers competing in the ocean event. Due to most of the boats having been forced out of the latter race, the exhibition for the benefit of the Cubans was impossible. Therefore, Commodore Gar Wood, owner and captain of Gar, Jr., II, decided not to make the run across the gulf stream alone. He accordingly agreed with the crew of Altonia II to put into Key West harbor with them and attempt to have the race postponed until some date later in the season when weather and sea conditions might be better, thus making it possible for all of the craft to reach Cuba.

Of the five starters, only two of them had entered in previous races to Havana—Gar, Jr., II and Marinette, formerly Carl G. Fisher's cruiser Shadow V. Of the three new craft Altonia II appeared to be best suited for the route, which is nearly always rough and tempestuous even at its best. This boat is a 72-footer, built and designed by Purdy and carries two 450 h.p. Allison motors. This is Altonia's second season in southern waters, but various minor engine difficulties curtailed her last season's activities quite appreciably. Therefore, her capabilities in a sea way or in a race of this kind were almost unknown, although of a doubtful nature. However, the actual performance of Altonia left nothing to be desired. She proved herself to be a most excellent sea boat, rode the long seas remarkably well, pounding very little. As far as the performance of her power plant is concerned, this, too, stood up nearly 100 per cent perfect. Had the owner of Altonia II been on board the combination would have been perfect and complete, but he evidently feared his ship and preferred to leave her destiny in the hands of his captain and crew.

Shadow VI, another Purdy boat, also started. This boat is somewhat smaller than Shadow V and not so well suited for offshore work, but being the only cruiser possessed at the moment by her owner, Carl G. Fisher, he gamely entered her, but remained ashore himself, turning his craft over to his very efficient captain, Clyde Hewes. Shadow VI is fitted with a glass bottom for the purpose of viewing the marine gardens which abound in the vicinity of Miami. This bottom successfully withstood the pounding of the seas for ten or twelve miles, but finally let go and let the ocean in. Shadow VI had to be turned shoreward in haste, and had it not been for the water-tight bulkheads with which she is fitted there might have been a different story to tell. Another starter, Mate of Mine, owned by F. J. Ossius, fell astern so rapidly after the start that it is hard to say what kind of weather she did make,

(*Continued on page* 108)

Dinner's ready!

—and dinner is a real treat on this boat!

THINK of completely satisfying that healthy outdoor appetite—with *real* meals, deliciously cooked and served, right on your boat! CRUISER-GALLEY-STOVE cooks appetizing meals with the ease and dispatch of the range at home in your kitchen. You couldn't choose a finer galley stove for your boat than

CRUISER GALLEY STOVE

The country's prominent motor boat builders and owners pronounce CRUISER-GALLEY-STOVE the *best* on the market. It is built for years of service. Burns ordinary motor gasoline—a thirty mile gale cannot blow it out.

You'll want CRUISER-GALLEY-STOVE for your boat. It's handled by all first-class marine supply dealers in principal Coast cities.

Prices

No. 2 Galley, attached tank	$16.50
No. 3 Galley, attached tank	18.50
No. 3 Galley, 1 gallon tank	23.50
No. 3 Galley, 3 gallon tank	27.50
4 burner galley, 3 gal. tank	45.00
3 burner galley, 1 gal. tank	35.00

No. 2 has 6-inch grates
No. 3 has 8-inch grates

PRENTISS-WABERS STOVE CO.

General Offices and Factory
108 Spring Street, Wisconsin Rapids, Wisconsin

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Tampa, Florida

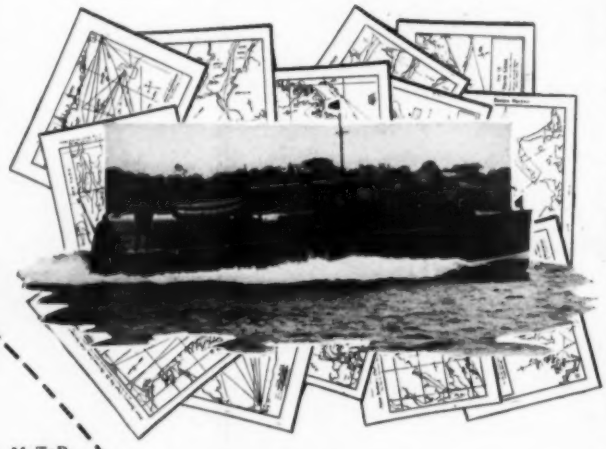
Take Aboard Your Choice of Gifts—36 Great Charts or Famous Cruise Book

When you start your cruise—long or short—take along MoToR BoatinG's 36 charts for motor boatmen. They offer you a great opportunity to make all the important seaboards, harbors and ports along your home waters. With the charts aboard you can be sure you're not missing a thing!

If you're not going cruising get that exciting volume, "The Cruise of the Hippocampus," by Alfred F. Loomis. Here is an amazing volume that takes you on a 3,000-mile trip in a 28-foot yawl to all the points of interest on the Atlantic Coast!

Whether you make the trip with the tang of the sea—or whether you make it under the calm glow of your reading lamp—you will be thrilled with the scenes and the buoyant spirit of adventure.

Your Choice of Two Great Gifts



Now in Book Form! Three dozen Motor Boatmen's Charts, invaluable for use on small boats and motor yachts. These charts include practically every important port and harbor on the Atlantic Coast, together with Lake Erie, St. Lawrence River and all important inland waters. They give you distances, compass courses, sailing directions, besides answering every navigation question you can think of. Mounted on cardboard these charts have sold for as high as $9.00.

"The Cruise of the Hippocampus" is making a sensation among boating enthusiasts. It is an amazing volume, full of thrills and excitement. It is retailing right along for $2.00.

MoToR BoatinG
119 West 40th St., New York, N. Y.

I desire to take advantage of the Special Offer checked below as advertised in the May issue of MoToR BoatinG. Enclosed find remittance of $3.50 (or) Send me a bill and I will forward the remittance to you without delay.

Offer No. 1. MoToR BoatinG for one year, and "The Cruise of the Hippocampus," $3.50
Offer No. 2. MoToR BoatinG for one year and book of 36 MoToR BoatinG Charts, $3.50

Name .....

Address .....

City & State .....

This offer is open to every reader of MoToR Boating, whether a subscriber or not.

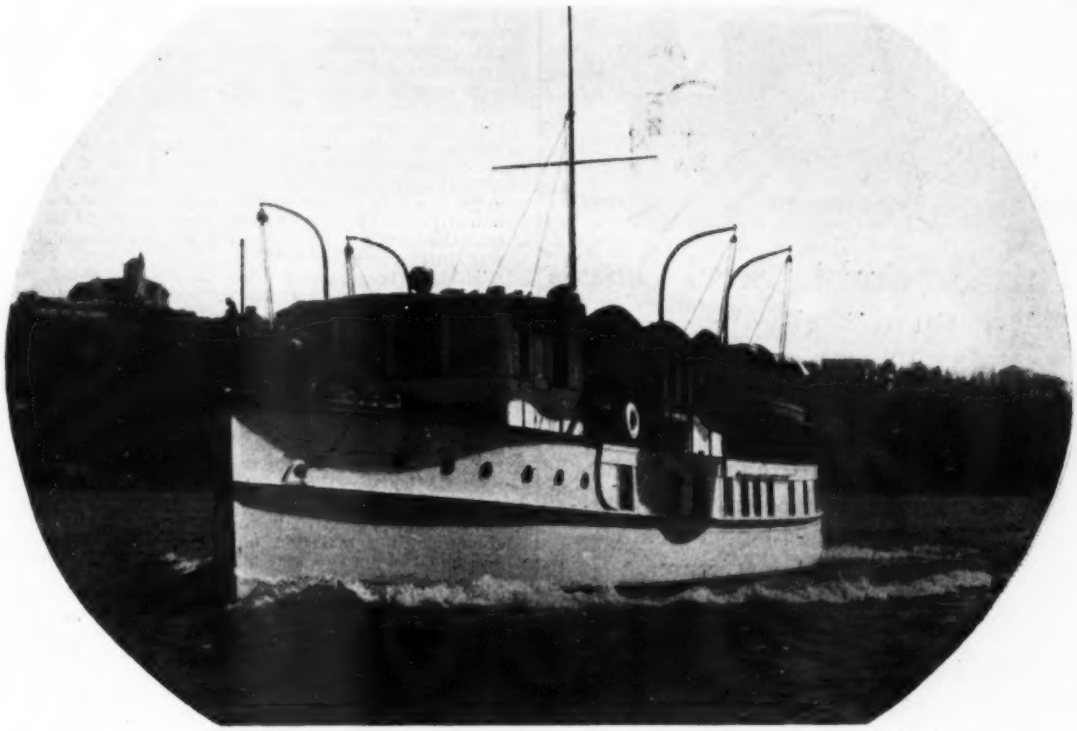
Mail Coupon Today—Now!

No Money Necessary!

But now you have the opportunity of getting the complete set of Navigation Charts or "The Cruise of the Hippocampus," along with a full year of MoToR BoatinG, for only $3.50. The regular price of a year's subscription to MoToR BoatinG is $3.00. For the extra 50c you can get up to eight times your money's worth. It is not necessary to send any money now, unless you desire. All that is required is your name and address on the coupon below. If you are on our regular list we will extend your subscription one year—but take advantage of our offer now! Mail coupon to-day—at *once!*

Advertising Index will be found on page 138

MATHIS YACHT BUILDING CO.



History repeats itself

Aside from the Mathis-built houseboat "Pioneer," on which President Harding was sojourning in Florida this past season, few boats were the center of such general interest as

"Lady Grace," a 95-ft. Mathis-built Houseboat

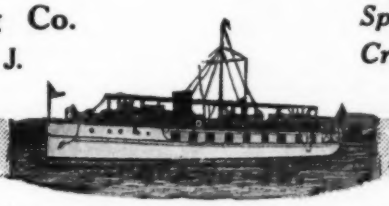
illustrated above. It is significant that the "Lady Grace"—designed and built by us in 1912—is today featured by one of our good competitors as notable in "seaworthy qualities, with a fair turn of speed."

The man who comes to us now for a boat, gets all this, PLUS all else that long specializing has taught.

Send for particulars of our new 65 ft. and 70 ft. twin screw houseboats.

Mathis Yacht Building Co.
Cooper's Point, Camden, N. J.

Specialists in Houseboats and Cruisers from 40 to 120 feet



HOUSE BOATS AND YACHTS

—the battery that won't die when a wave slaps it!

This Columbia Steel Case "Hot Shot" sheds water like a duck's back!

More, it's built to *keep on* delivering its sure-fire hot spark long after the ordinary battery has petered out and quit. It's this "they last longer" feature of Columbia that makes it supreme—

3 Sizes Now!

for Motor Boat Ignition, and *Lighting* too!

Columbia Steel Case "Hot Shot" No. 1461
4 Cellpower—6 Volts—4 Cells in a Row

Columbia Steel Case "Hot Shot" No. 1562
5 Cellpower—7½ Volts—5 Cells in 2 Rows

Columbia Steel Case "Hot Shot" No. 1662
6 Cellpower—9 Volts—6 Cells in 2 Rows

Remember—this Columbia Steel Case Battery costs no more than ordinary fiber case batteries!

For sale everywhere by dealers in marine supplies, hardware, electrical equipment, and accessories; garages; general stores.

Always insist upon Columbia —the genuine "Hot Shot"

NATIONAL CARBON COMPANY, Inc.
Long Island City, N. Y.

Atlanta Chicago Cleveland Kansas City San Francisco

Columbia Dry Batteries
—they last longer

In the Land of Society and Sunshine

(*Continued from page* 104)

but she reported back at the boat house in an hour or two with everything movable on board comfortably resting in the starboard bilge!

The weather on the day for which the race was originally scheduled, March 3, was bad—so bad, in fact, that it was necessary to postpone the race until the next day, hoping for an improvement in sea conditions. The next day, however, gave no encouragement for any improvement, so the start went over to Monday, the fifth of March, at 7 A. M. When this time arrived the wind was still blowing strong from the east, and when the east coast of Florida is a lee shore it's a mighty fine place to keep away from. But after two days of postponements, and with no means of getting the owners or crews together before the start, the judges gave the signal *Go*, to go it was, although without doubt everyone on board knew it was just a question of time before it would be *Stop*. It is true the weather wasn't stormy, nor was a gale blowing. It was just seasonable weather. Postponements for a month might have been necessary to be sure of anything much better, yet all the same it was rough and mighty uncomfortable going. This is only another way of saying that a race course from Miami to Cuba is not a suitable one for express cruisers. True it is that they can make it with speed and safety, but it is punishment most of the way.

Gar, Jr., II., as usual, took the lead at the start and was never headed. Also, as usual, she proved herself to be the same wonderful sea boat under adverse conditions as she was three seasons ago when she started her racing career which has now made her famous the world over. This three-seasons-old boat shows no signs of what she has been through, although two round trips from Havana, Cuba, to Duluth, Minn., are but a small portion of her total mileage, which must sum up somewhere near 75,000 by now. Not a drop does the hull leak and the two motors still purr off their 1,200 revolutions per minute with the same sweet rhythm as always.

Shadow VI also made a fine getaway, leading Altonia II for the first ten miles. But it was very evident, as viewed from on board Gar, Jr., II, that Shadow VI was being driven almost to the limit, while Altonia II was taking it rather easy. The latter boat was not laboring or jumping anywhere nearly as badly as Shadow VI, whose hull would come out of the water for more than half of her length as the high spots were met in rapid succession. It was to be merely a question of time when either the hull of Shadow VI or her crew from physical exhausion would be cause to put about. It was the hull which surrendered first, as we have mentioned.

When the crews of Marinette and Mate of Mine saw Shadow VI run for the calmer waters of Biscayne Bay through one of the channels between the Keys, they, too, decided they had had sufficient experience and followed Shadow VI back to Miami.

The withdrawal of three boats took away most of the enthusiasm on board the two which were still left in the race, but both Gar, Jr., II and Altonia II continued on. The former gradually opened up her lead, although at no time was it necessary to turn the motors faster than 1,200 revolutions per minute.

We had planned to take our departure for Cuba from American Shoal Light instead of continuing down the coast to Key West and then across. This would have saved us something over ten miles in distance, although it meant bucking the current and head seas of the gulf stream for about an hour longer than had we kept in shore. When we reached American Shoal, a few minutes after twelve o'clock noon, Altonia was just visible astern. The sea had gone down somewhat, but was still fairly high inshore, and as we had not as yet even got a sample of what the stream itself had to offer, we decided to shut off our power, have lunch and wait for Altonia to come up as recorded above.

Even though the sea was fairly rough at the time of deciding to call off the race, the conditions were nowhere near as bad as on race day a year ago, when both Shadow V and Gar, Jr., II successfully crossed to Cuba, both boats finishing the race. But I suppose the thoughts and remembrances of what we went through in 1922 did not make us especially reluctant to accept Altonia's suggestion not to attempt it again.

The local Miami Beach races were held on the afternoon of March 17. Contrary to the usual custom in years past of holding a regatta of several days' duration, a change was made this year, and only one afternoon of racing held. There was also more attempt made to interest local craft in the competition, and, even though there was a scarcity of nationally famous speedsters this year, the change proved a welcome innovation. The boats and owners wintering in the South co-operated fairly well, but most of the race details were handled by Northern racing men who went down to Miami

(*Continued on page* 112)

Strength!-where it is needed

A ROWBOAT loaded to full capacity weighs almost half a ton. With this load going at full speed, how hard a blow do the drive and propeller shafts of an outboard motor receive when they strike under-water obstructions? The under-water part of a motor, not constructed like that of the ELTO, is apt to be completely distorted, if not broken outright.

A series of even lighter blows, in time, causes disalignment of shafts, fast wear and early breakage, unless they are encased in a strong and rugged housing. The 200 pound man in the illustration is jumping on the one-piece housing that encases and completely protects the ELTO drive shaft. This housing is constructed like the full floating type automobile axle, taking all the shocks and strain which otherwise would fall on the shafts. The unique housing construction belongs *exclusively* to the ELTO. The fine stream lines of the ELTO'S under-water parts make it the most *weedless* of motors. They offer the least resistance to the water—cut through it like a knife. The entire design of the ELTO is distinctively beautiful and clean-cut through-out.

The Only 3 H. P. Light Twin

An Extra Horsepower!

Your motor must carry you a great deal farther than you will ever carry the motor and it takes three full horsepower to do it in a substantial boat against currents, winds and tides—to get you safely to shore in a sudden summer squall—or to get speed from sea-worthy boats. The ELTO is the *only 3 H. P. Motor* in the light weight class. It is also the ***lightest*** motor per H. P.

Double the Bearing Area

It was to be expected that Ole Evinrude, the pioneer designer of outboard motors, would build only as "light as right", at no sacrifice of needed power or durability. That is why his perfected motor, the ELTO LIGHT TWIN, has more than double the connecting rod and crank shaft bearing area of all other light weight motors.

Safe Rudder Steering

—no possibility of dangerous pivot turning. No shaking steering handle. Tiller line steering from any part of boat. Hands are free except at turns.

Instant Starting

Because there could be no relief from hard, stubborn and uncertain starting, the curse of outboard motors, without change of ignition, Ole Evinrude made the change. The ELTO starts on ***first quarter-turn*** under all conditions. No ropes or starting devices needed.

Enlightening Information

Write us for ELTO Catalog—a book packed with interesting facts and illustrations which will show you how to judge outboard motor values.

Dealers and Demonstrating Agents—a fine proposition awaits you in open territory. Write today!

ELTO OUTBOARD MOTOR COMPANY
Dept. F, Manufacturers Home Building
MILWAUKEE, WISCONSIN

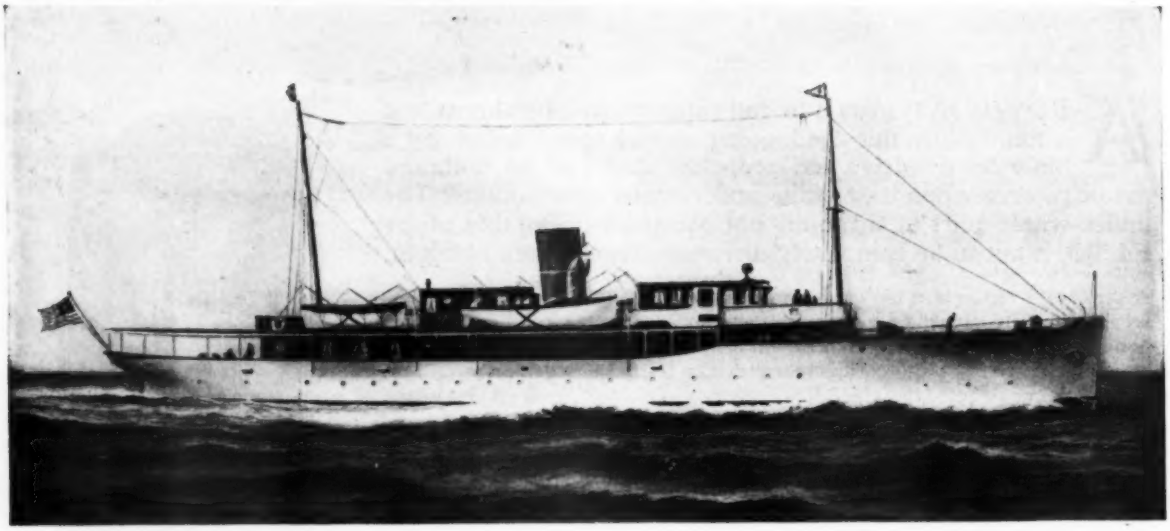
Your dealer will do this with any **Elto** —demonstrating the Elto's strength at the point where it has been proven that strength is needed most.

Elto

3 H.P. Fast Light Twin
"As light as right"

172-ft. Diesel-Powered Yacht "OHIO" Built by Newport News Shipbuilding and Dry Dock Co.

YACHT AND SHIPBUILDERS



Owner, E. W. SCRIPPS Designers. COX & STEVENS

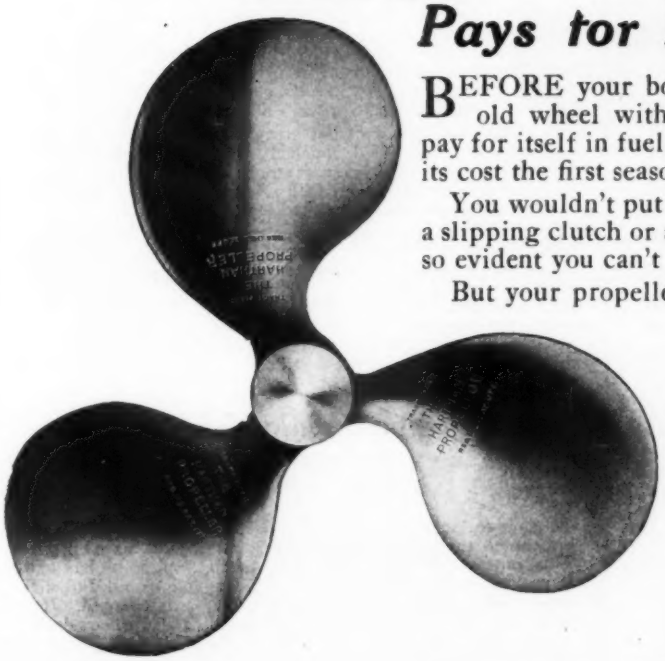
Plant Located at Newport News, Va., on Hampton Roads

NEW YORK OFFICE—WOOLWORTH BUILDING—233 BROADWAY

Advertising Index will be found on page 138

Put on a HARTHAN TRUE-SCREW PROPELLER

Pays for Itself in Fuel Saved



BEFORE your boat is put over this spring, replace your old wheel with a Harthan Propeller. It will quickly pay for itself in fuel saved, and probably save you many times its cost the first season.

You wouldn't put up very long with a skipping spark plug, a slipping clutch or a loose engine bearing. Such troubles are so evident you can't rest until they are fixed.

But your propeller is out of sight and out of mind; don't assume that it is all right unless you are sure. It may be bent or out of true; it may be poorly designed or the wrong size or pitch for your boat.

Harthan True-Screw Propellers are not only correctly designed but they are accurately cast, machined, balanced and polished. Made of a special alloy of tough strong bronze that will not bend or break in service.

Send us the coupon below with data on your boat and engine so we can recommend the proper size Harthan Propeller and tell you the price.

We also make Harthan Propellers in cast iron

Write Today

McFarland Foundry & Machine Co.

1100 Willow Street **Trenton, N. J.**

Date.....

McFARLAND FOUNDRY & MACHINE CO.
1100 Willow St., Trenton, N. J.

Please advise me the proper propeller for my boat.....

Length over all ..... Beam ..... Draught .....

Construction (light, heavy, medium).....Motor: Make .....

H.P. ..... R.P.M. ..... Present speed .....

Present wheel .....

Name .....

Address .....

Albany BOATS are smart boats

Runabouts in stock—at time of writing this advertisement we have on hand 26—30 and 35 foot runabouts. Choice of engines giving speed ranges from 20 to 40 miles per hour. Inquirers, stating speed desired, will receive very complete data with specifications and photos.

Standardized plans for Cruisers and Runabouts provide an economical and quick way of building boats—also some leeway in expressing the buyer's individuality on details. We offer 40 standardized types of cruisers and runabouts. This is not an offer to sell plans.

Custom built boats are the full expression of individuality. It requires the complete interest of the Builder in each craft. The Builder, who does like such detail work, can build superior boats and can contribute greatly to the owner's happiness by whole-hearted devotion to attaining the buyer's ideals. Ask an Albany owner.

When to contract—Business is unusually brisk. Look ahead. Now is the time to contract for late season's deliveries and for Southern season.

Our range is up to 75 feet. We will furnish plans and specifications or we will quote on your specifications. Visitors are invited.

ALBANY BOAT CORP.

7th Street, Watervliet, N. Y.

(20 minutes by trolley from Albany depot)

In the Land of Society and Sunshine

(*Continued from page* 108)

Beach for that purpose or happened to be in that locality at the time. Commodore A. A. Schantz of Detroit, as usual, was general chairman, and had such men associated with him as Commodore C. W. Kotcher of Detroit, O. J. Mulford of Detroit, Webb Jay of Chicago, A. J. McLeod of Detroit, Harry Parsons of Cleveland, J. P. Stoltz of New York, Commodore William E. Scripps of Detroit, R. Posso of Havana, Cuba, W. B. Wilde of Peoria, Ill., Eugene Quigley of Cleveland, C. G. Amory of New York, Oscar Marx of Detroit, Robert E. Oakman of Detroit, G. W. Livingston of Miami, C. W. Chase, Jr., of Miami Beach, and others.

Due to the fact that there were no hydroplanes in Florida waters this winter, no class for these boats was arranged. A free-for-all runabout race of ten miles in length provided a thrill every foot of the way. Webb Jay in his Sue J. and Gar Wood driving Atlanta II, a Great Lakes runabout, took the lead. Sue J. just nosed the Wood-driven craft out at the finish. Ignatz, a Sea Sled, owned by Charles Ignatz and powered with a four-cylinder Hall Scott motor, finished in third place.

The ten-mile race for the Southern Express Cruiser Championship also provided a few minutes of fun. The three leaders, Whirlwind, owned by Julius Fleischmann; Altonia II, owned by A. C. Newby, and Marinette, belonging to E. C. Rompf, were very evenly matched and fought it out every inch of the way. First honors went to Whirlwind. Marinette took second and Altonia failed to finish. Whirlwind is a Consolidated built craft powered with two Speedway motors and her appearance and good running qualities were admired by all present.

A chance race of six miles attracted fifteen starters. Webb Jay, who with his Sue J. finished in first place, also took first prize in the drawing. Ignatz took second, Marinette third, Gar Jr., II fourth, Sancho fifth, Neried sixth and Sonny Boy seventh in the drawing for prizes.

In the handicap express cruiser race, with six starters, Marinette, owned by Edward C. Rompf of Miami, finished a length ahead of Sancho, belonging to Colonel Theodore Dickinson of Miami Beach. Mate of Mine came along a very few seconds later and then Gar Jr. II a length astern. Commodore Wood was several seconds late in getting over the starting line and lost the race by just this amount, the boats being started on their handicap time and the first boat to finish called the winner.

What You Should Know About Insurance

(*Continued from page* 30)

damages to her or her goods and effects, the policy will protect him up to the amount of insurance carried on his own yacht. This, however, does not cover loss of life, unless he has had a clause inserted which is called the Protection and Indemnity clause and for which an additional premium is charged. If the insurance value is $2,500 or more the policy also covers damage to hull and machinery due to the negligence of the owner or master, provided such loss or damage has not resulted from the want of due diligence by the owner of the yacht or the master. Losses are payable within thirty days after proof of loss or damage has been made and presented to the underwriters, and in case a suit for recovery is started against them, it must be commenced within a specified time according to law, from the time when the cause of action accrues. Loss or damage caused by strikers, locked-out workmen, or labor disturbances, or riots or civil commotions, are not covered under the policy. The owner should particularly note that the policy is void in case the yacht insured is sold, assigned, transferred, or pledged without the consent of the underwriters. Nearly all yacht marine policies contain a clause excluding claim for damage to spars and sails while racing.

It is obvious that motor yachts and auxiliaries pay a slightly higher rate than sailing yachts due to the fire hazard involved, on account of the use of gasoline. High speed motor yachts pay a higher rate than cruisers, as do lightly constructed yachts, on account of the inherent hazards due to collision, control, etc.

As a final word to yacht owners on this subject of insurance, we would suggest that when he is considering insurance on his boat, he consult a broker who has had experience in this particular branch of the insurance business; place before him all the facts in relation to the same and rely upon his judgment and advice as to the matter. If he does so, the broker should see to it, that his interests are protected in every way and in case of a loss should represent him in the settlement of the same with the Underwriters, and the owner will no doubt insure a satisfactory adjustment of his loss.

Advertising Index will be found on page 128

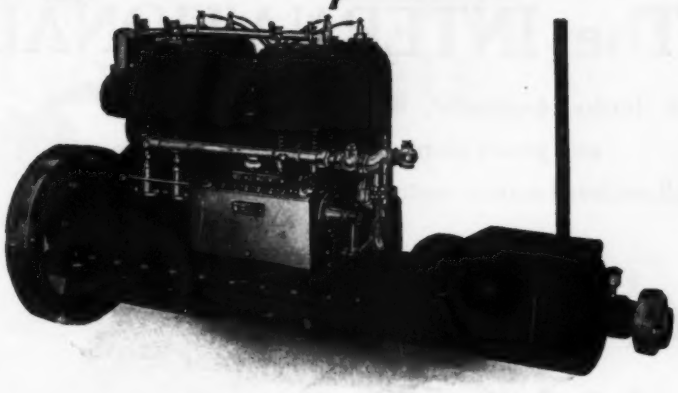
Peerless

Medium Duty Engines for Cruiser or Work Boat

1923 PRICES

4 cyl. 40-50 H.P.	Bore 5¾	Stroke 7"	—$1185
4 cyl. 25-35 H.P.	Bore 5	Stroke 6"	— 755
4 cyl. 16-20 H.P.	Bore 4	Stroke 6"	— 660
2 cyl. 20-24 H.P.	Bore 5¾	Stroke 7"	— 660
2 cyl. 10-12 H.P.	Bore 5	Stroke 6"	— 435
1 cyl. 5- 6 H.P.	Bore 5	Stroke 6"	— 300

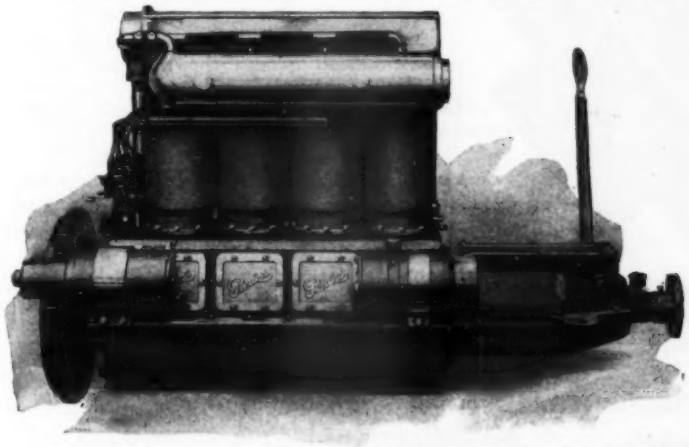
ABOVE PRICES INCLUDE GEAR AND FULL EQUIPMENT



Medium Duty 4-cyl. 40-50 H.P.

Peerless Medium Duty Motors have been giving satisfactory, economical and reliable service in all parts of the world during the past ten years. These motors have been installed in all types of boats and used for both work and pleasure.

Peerless prices covering the Medium Duty line, are lower than any other reliable motor, when bore and stroke is considered. It is true that many motors having much smaller cylinder dimensions, have a higher horsepower rating. This is due to the fact that such engines are rated at extremely high speeds, which are impossible in ordinary installations.



High Speed 4-cyl. 125 H.P.

High Speed Engines for Fast Runabouts

Weight 4 cyl. 125 H.P. 800 lbs.

Weight 6 cyl. 200 H.P. 1000 lbs.

4 cyl. 125 H.P. Bore 5 Stroke 7" Speed 1700 R.P.M.—$2000

6 cyl. 200 H.P. Bore 5 Stroke 7" Speed 1700 R.P.M.—$3000

Special Gold Cup Model

Piston Displacement 618½ Cubic Inches, Weight 900 lbs., Bore 5", Stroke 5¼", 200 H.P., Speed 2250 R.P.M.

Price $3000

The new High Speed line is built of the very best materials throughout. The base is made of a special bronze casting; cylinders are semi-steel castings, finished by grinding; crank shaft, connecting rods, bolts, studs, etc., are made of special alloy steel and properly heat treated. Lubrication system is full pressure through a hollow crank shaft; oil is carried in a special tank; all water fittings, water pump, etc., are of bronze, making this an ideal outfit for salt water use. Extremely large bronze back babbitt bearings are used throughout and are interchangeable. The extreme light weight of these motors is made possible by the careful design and special castings, alloy steels, etc.

Write today for complete catalog

PEERLESS MARINE MOTOR CORP., 2160 NIAGARA ST., BUFFALO, N.Y.

MARINE INTERNATIONAL MOTORS

DETROIT INTERNATIONAL U. S. A.

The INTERNATIONAL-16

A Real Marine Engine

A husky 4-cylinder, 4-cycle unit power plant all-enclosed marine motor with

Ford Replacements

$365

F. O. B. Detroit

Complete Unit Power Plant including Bosch Magneto with Impulse Coupling.

Electric Starter and Generator at extra charge.

The INTERNATIONAL-16 offers more power and satisfaction for the money than any other four cylinder motor on the market today. It is strictly high grade in design and construction, following the best accepted marine engine practice. Every moving part is enclosed except the magneto drive shaft; this includes enclosed flywheel and built-in reverse gear. Lubrication indicated by oil pressure gauge.

Best of all, the INTERNATIONAL owner can get expert service anywhere in the world and repair parts with minimum expense and delay because wearing parts of this engine are absolutely interchangeable with standard Ford motor parts, obtainable at Ford Sales and Service Stations everywhere.

Write today for full particulars

DISTRIBUTORS

44 Third Avenue **SUTTER BROS.** New York
Service Station foot of E. 92nd St., Brooklyn

MARINE EQUIPMENT & SUPPLY CO.
116 Walnut Street Philadelphia

CANADA

CANADIAN BOAT AND ENGINE EXCHANGE, TORONTO, ONT.

INTERNATIONAL MFG. CO.

439 Fort Street, East Detroit, Mich., U. S. A.

Export Dept., 132 Nassau St., New York, N. Y.

DETROIT INTERNATIONAL U. S. A.

Advertising Index will be found on page 138

"The HOUSE of WOOD"

Where Good Boats Are Built— Where Good Service is Given

Are you looking for a builder who will carry out your plans without a single compromise or a single disappointment? Are you looking for a yard where you can get real service the year around, where personal attention is given to every customer and every boat? If you are exacting in these things you will find what you are looking for at the HOUSE of WOOD.

Three generations ago this yard was started in the same location by the grandfather of the present management. The founder built honestly and skilfully; he set a standard which has never been departed from; the traditions of over half a century of successful boat building are an inheritance which we value too highly to make any change in the Wood policy of service and quality.

Without affecting the Wood standard of Service, this yard has recently been reorganized on an up-to-date business basis. New methods, new ideas, and new equipment have been added to increase our service to present patrons and to provide capacity for a larger patronage.

The yard has been practically doubled in size. New buildings have been erected and new equipment installed. The entire yard is owned free and clear, which reduces the overhead cost on every operation.

Best of all, a new and accurate cost system guarantees fair charges for all work. No attempt is made to cheapen or speed up at the sacrifice of results, but every customer is assured the lowest charges consistent with the quality of work performed.

Let us quote on your work. We will be glad to have you visit our plant at City Island, New York City

NEW CONSTRUCTION—Wood, steel or composite construction up to 125 ft., under cover.

MARINE RAILWAYS—150 ton and 300 ton.

POWER INSTALLATIONS—Complete facilities for engine work and overhauling.

STORAGE—Wood Service insures constant care—not just a place to store your boat.

OVERHAULING AND RECONDITIONING—Every facility and equipment at hand. Specialized corps of workmen for each operation.

PAINTING—By experienced workmen under the supervision of a foreman who has been at it for 30 years.

REPAIRS—Any kind of repairs to motor, hull or equipment by men who know how.

B. F. WOOD, INC.

Marine Street — City Island, New York City

John A. Wood, President — Directors: John A. Wood, Arthur G. Hill, Addison G. Hanan

THE Success of the eight plants of Todd Shipyards Corporation is due to specialized knowledge within each plant, and occasional specialization of a complete plant on one line of work. The Tebo Plant in Brooklyn, for example, offers unequalled facilities for the repair, conversion and refitting of Yachts.

PLANTS

Robins Dry Dock & Repair Co.
Erie Basin, Brooklyn, N. Y.

Tietjen & Lang Dry Dock Co.
Hoboken, N. J.

Tebo Yacht Basin Co.
Foot of 23rd St., Brooklyn, N. Y.

White Fuel Oil Engineering Corporation

Todd Oil Burning Systems
742 East 12th St., New York

Clinton Dry Docks, Inc.
Foot of Clinton St., Brooklyn, N. Y.

Todd Shipbuilding & Dry Dock Co., Inc.
Mobile, Ala.

Todd Dry Dock & Construction Corp.
Tacoma, Wash.

Todd Dry Docks, Inc.
Harbor Island, 16th Avenue S. W., Seattle, Wash.

Todd Oil Burners, Ltd.
London, England

Two Graving Docks

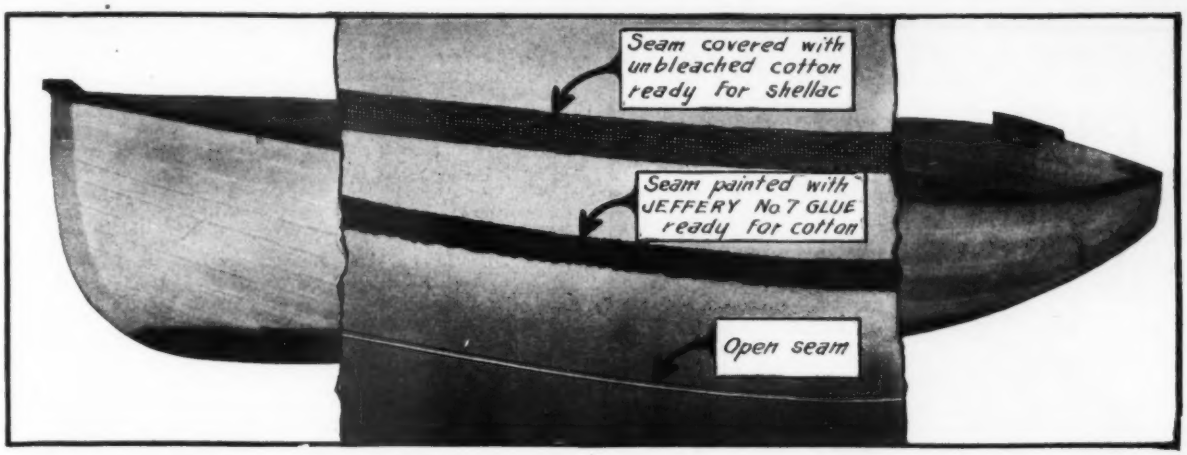
Twenty-one Floating Docks

Twelve Shipways

TODD SHIPYARDS CORPORATION
Main Office, 25 Broadway, New York

TODD NEW YORK, U.S.A.

Advertising Index will be found on page 138



DOES YOUR BOAT LEAK?

LET US TELL YOU ABOUT

JEFFERY'S

WATERPROOF

MARINE GLUES

The enlarged section of the above illustration shows how the hull seams of a boat can be treated when the owner does not care to go to the expense of covering the entire hull with cotton or canvas as recommended in our booklet entitled, " How to make your boat leakproof."

The lower seam is shown open, as usually is the case when a boat is laid up during the winter, the middle seam is shown painted with a coat of our Jeffery's No. 7 Marine Glue ready for the cotton fabric which is laid on the glue and ironed into it with a warm flat iron as shown on the top seam. The cotton is then given a coat of shellac and painted. When the job is completed according to these directions the patching strips can scarcely be detected.

We, however, believe and earnestly recommend that if a more permanent result is desired, the entire surface be covered with fabric, laid in our Jeffery's No. 7 Black soft quality Marine Glue. This treatment will insure a boat with a coat of paint once a year being absolutely watertight indefinitely. ***Put your leak troubles up to us—we will help you stop them.***

Date.....

L. W. Ferdinand & Co.,
152 Kneeland Street,
Boston, Mass.

Please send me booklets " How to Make Your Boat Leakproof " and " Marine Glue—What to Use and How to Use It."

Name .....

Address .....

My local boat builder or dealer is.....

.....

Send for our booklets, " How to Make Your Boat Leakproof " and " Marine Glue—what to Use and How to Use it "

JEFFERY'S WATERPROOF MARINE GLUE

In all the various grades

For sale by all Yacht, Boat and Canoe Supply Houses, Hardware, Paint and Oil and Sporting Goods Dealers

L. W. FERDINAND & CO.

152 Kneeland Street Boston, 11, Mass.

The Days of REAL SPORT

Our standardized 21-ft. "SPORT" Model. Speed over 17 miles per hour with 30 H.P. Buffalo or Kermath engine.

IF you want a classy little runabout that is a happy combination of speed boat and general utility launch, you'll look a long way without finding an equal to our standardized 21-ft. "SPORT" model. It has a 30 h.p. Buffalo or Kermath engine, complete with electric starter, and makes over 17 miles an hour. Seats five with real comfort, with room for a couple of chairs too if you wish.

Or maybe you'd prefer the 26-ft. MOGUL which is powered with any engine you want, according to the speed required. Any high speed engine from 30 h.p to 200 h.p. will give good results in this hull.

The Dachel-Carter standardized types include not only the Sport and Mogul models, but also outboard motor boats, rowboats, and hydroplanes. Our plant is equipped to build to your order anything you want in the way of a cruiser, runabout, sailboat or commercial boat of any size up to 125 feet, in steel or wood.

We have been building good boats for a quarter of a century and our facilities are the most complete in the Central West. Let us quote on your requirements if you don't find what you want in our standardized types.

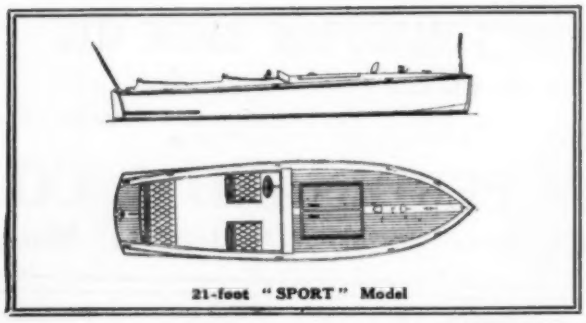
Write today for data and prices

Attractive agency territory available—write or wire

DACHEL-CARTER BOAT CO.

General Sales Office: 53 West Jackson Blvd., Chicago

Boat building plant at Benton Harbor, Mich.



21-foot "SPORT" Model

Solving the Secrets of the Compass

(*Continued from page 36*)

cause you get a certain compass-course and deviation on say a NE magnetic course you will get the reciprocal of the compass course and the same deviation on the reciprocal of the magnetic course, or SW. You must run each range in both directions. Each range will thus give you course and deviation for two points.

It will be evident that to get a useful and dependable steering-table you must use every care in plotting the courses on the chart—that is, in getting the magnetic courses, in getting and keeping your boat accurately on the range, in reading your compass and in noting the compass-readings. You will find the work interesting and the finest kind of training in course-plotting and compass-running.

Making the table. It is perfectly possible to make a steering-table from the data you have gotten on your runs without knowing anything at all as to the kind and amount of deviation present and without any knowledge of the method of applying deviation when the kind and amount is known. It is usual, however, to include the kind and amount of deviation in a complete table and the following simple method for determining the name of the deviation and applying it will enable you to get this information easily if you wish it.

First refresh your memory as to the definition and naming of deviation by referring to No. 4 of the definitions given previously. Make for yourself a simple string protractor, if you have none, by threading a fine cord through the center of a compass-rose, which may be cut from an old chart, keeping the string in place by a knot on the back of the rose and letting its end extend out over the face. Such a protractor makes the solving of deviation problems easy and certain and its use can be best illustrated by a couple of examples.

1. Magnetic course NE, compass course NE by E. What is the deviation?

Lay the protractor on a table and hold it there with one finger in its center with north pointing directly away from you. Stretch the string across the NE point and hold it down on the table outside the compass-rose with the free hand. Your compass-course was NE by E. Holding the string just as it is on NE—the magnetic course—rotate the protractor under the string until NE by E is cut by it. You will see that the north end of the needle of your compass must have been swung to the left or west to produce the deviation, hence—see No. 4 of the definitions—we have westerly deviation. You have rotated your compass-rose one point to the left, hence the deviation amounts to one point. Result: one point westerly deviation on a magnetic course of NE.

2. Magnetic course SE, compass course SE by E. What is the deviation?

Use the protractor as before. In moving the protractor so the SE by E mark comes under the string you have moved the north end of the needle to the right or east and the deviation is therefore easterly.

Applying deviation to convert magnetic course to compass course. Example. Magnetic course NE, deviation one point west.

Stretch the protractor-string over NE again and hold it down; rotate the rose one point to the west to show the deviation of your compass from that magnetic course. It is instantly evident that you must run NE by E by your compass to make a NE magnetic course.

A very little practice with the protractor will make this work very easy and rapid.

There are rules for applying variation and deviation which experienced skippers use without bothering with mechanical aids, but it is very easy to get in bad with them and I would suggest that the protractor be used when it is available. It relieves the old bean of considerable strain and is fine insurance against mistakes.

The usual table is made on a card ruled in vertical columns headed from left to right, Date, Magnetic Course, Compass Course to be Steered, Deviation. Enter the course gotten from the chart under Magnetic Course and the course as shown by your compass on the run under Compass Course to Be Steered. The kind and amount of deviation for each course may be gotten as just described and entered under Deviation, but the table is just as useful without it.

A very convenient and accurate table may be made by the use of two concentric compass-roses—say a rose cut from an old chart and another perhaps three-quarters of an inch smaller in diameter, which can usually be found in a marine-supply catalogue or in back numbers of some of the boating magazines. Cement the smaller rose on to the face of the larger so that their centers and diameters coincide. The

(*Continued on page 124*)

Beach Your Boat Anywhere With This Motor

IT'S the only motor of its kind in the world; the only motor that will drive a boat well up on the shore regardless of how shallow the water—the only motor that will go through weeds so thick as to be almost impassable—the only motor that rises over rocks and sunken logs while maintaining its full power ahead. And it's the only motor that can be attached to the stern of the boat on shore and shoved right out into the water.

What Users Say

Carlsbad, New Mexico

The Caille Perfection Motor Co.
Detroit, Mich.

Gentlemen:

I have used the CAILLE LIBERTY DRIVE for six months on lake and river and it gives the best satisfaction.

I use it on a 16-ft. skiff, 4 ft. wide and 18 in. deep. The beauty about the LIBERTY DRIVE is that I can land any place—can drive the front end of boat up on dry land. For going over shallow places or logs, it can't be beat. Would not exchange it for any other rowboat motor.

Very respectfully,
PETER ROCKENBAUGH

The Caille Liberty Motor provides plenty of power, can be easily carried, has motorcycle control and, because of its simple design, can be sold for $75.00 complete, ready to run. If you buy any motor before investigating the Caille Liberty, you cheat yourself out of added pleasures and your purse out of added cash.

So write us now. We'll send our complete catalog which also shows the famous Caille Five-Speed Motor—the highest development in a vertical type rowboat motor. Also name of nearest dealer.

The Caille Perfection Motor Co.
6214 2nd Boulevard Detroit, Mich.

TRADE CAILLE MARK

No leaning over stern of boat to attach a Liberty Motor. Just fasten it to the boat on shore. Then shove out and off you go.

Goes through weeds like an eel where even oars cannot get through.

Propeller automatically rises over sunken logs and stones and continues propelling boat.

$75.00 Complete

CAILLE

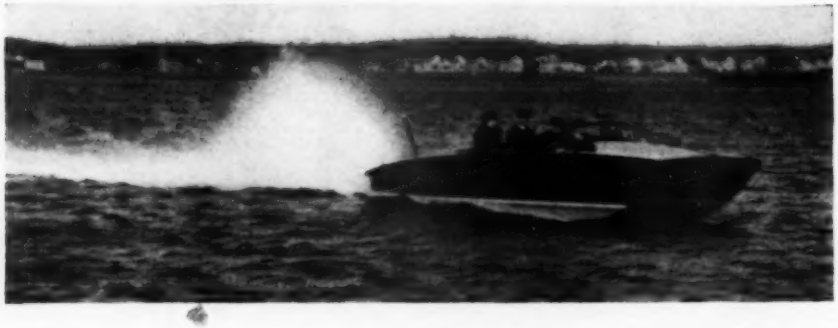
(PRONOUNCED "CAIL")

LIBERTY MOTOR

PATENTS PENDING

for Row Boats

"Drives Your Boat Where'er 'twill Float"



STANDARD 25-FOOT RUNABOUT CARRYING 5 PEOPLE

The surpassing advantages of Sea Sled construction as represented particularly in our latest standard 25′ hulls, available with either one or two engines, and in runabout or sedan types, have met with the most striking recognition this season. This is attested by the volume of orders in hand. Unquestionably the business in sight will exceed our production capacity for June delivery.

We urge anyone considering Sea Sleds for Summer delivery to communicate with us without delay.

Are you going to have one of the eight, eleven or thirteen-foot Sea Sled dinghies for this season?

Inverted V-bottom and Surface Propeller boats.

Hickman Patents in all countries.

SEA SLED

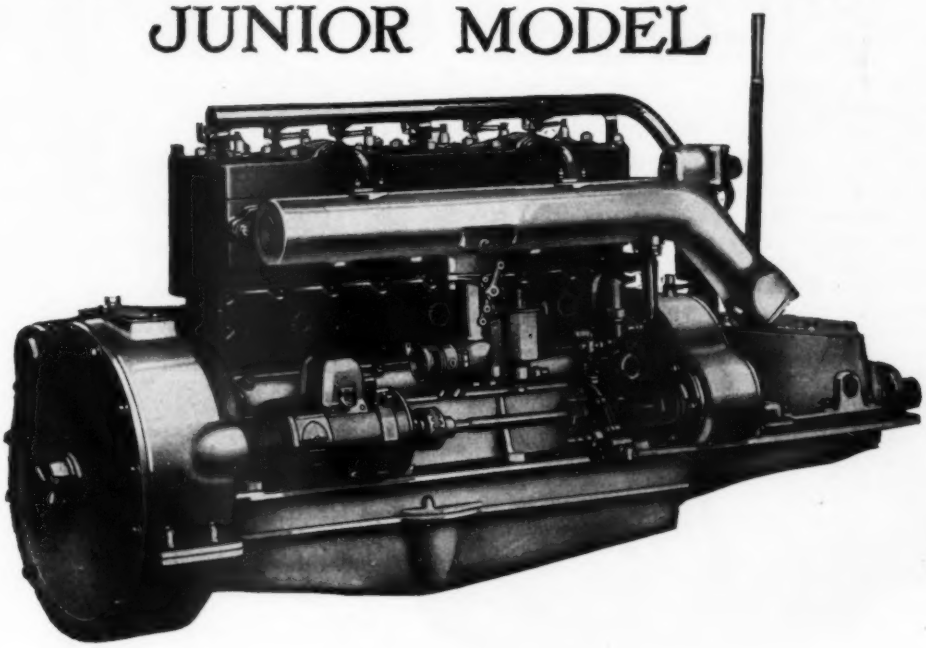
Trade Mark Reg. U. S. Pat. Off.
Trade Mark Reg. Canada

THE SEA SLED CO., LTD.

WEST MYSTIC, CONN.

Advertising Index will be found on page 138

PACKARD
MARINE ENGINES
JUNIOR MODEL



ALL Packard Marine Engines are developed and built in our Engineering Division which insures the highest class material and workmanship. Each engine is tested on the dynamometer and must pass a uniform test before the engine is shipped.

Remarkable smoothness and quietness of operation even at extremely high speeds are the noticeable features.

SPECIFICATIONS

6—Cylinders
3⅝" Bore—5" Stroke
Piston displacement, 268 cu. in.
H.P., 45 at 1800 R.P.M.
Weight complete, 650 lbs.
Cylinders, cast en bloc
Crankcase, aluminum composition
Ignition system, Delco
Oiling system, full pressure
Crankshaft, 7-bearings
Electric starter
Price, $1500

PACKARD MOTOR CAR COMPANY, DETROIT

ASK THE MAN WHO OWNS ONE

Now is the Time

to install a

STANDARD REVERSE GEAR

The Standard Midget. The smallest reverse gear made. Holds 5 H.P. at 1,000 R.P.M.

BEFORE your overhauling is completed, before your boat is put in the water, consider installing a Standard Gear. Write or wire us for prices and details, stating power and revolutions of your engine and the size and type of your boat.

These 1923 Standard Reverse Gears are the result of eleven years of gear manufacturing experience and improvement. Their success from a mechanical standpoint is proved by the fact that there are more than 30,000 Standards in use. They are the only reverse gears equipped with our wonderful Multi-Cone Clutch.

"It wears in—not out."

THE smooth engagement and tremendous holding power of the Multi-Cone Clutch is due to its great friction surface. See the four large cones in the illustration and note that all the friction surface is at the point of greatest diameter which increases the leverage and holding strength. These cones are much larger and sturdier than the thin plates used in a multiple disc clutch.

THERE is no gear to equal the Standard, because there is no clutch to equal the Multi-Cone.

REMEMBER this:—The Multi-Cone Clutch is built to outlast your motor, without regards to the service.

THE Standard Multi-Cone Clutch is the most efficient marine clutch ever designed. No other gear can equal the Standard in smoothness of operation and freedom from trouble because no other has the right to use this patented design.

Model "C" Standard Multi-Cone for 100 H.P. Hall-Scott. Entirely enclosed, $100.00 Complete.

An oil groove with packing makes this case oil-tight at every joint. Oil traps at the end of each bearing prevent leakage. A ball thrust bearing at the rear is an integral part of the Standard Gear.

Write today for catalog and prices

STANDARD GEAR CO. 2819 Brooklyn Ave., Detroit, Mich.

Cable Address—"Stangear"

Advertising Index will be found on page 138

FRISBIE

VALVE-IN-HEAD MOTOR

Trophies Won by Frisbie Powered House Boat Against Cabin Cruisers

Time Prize	Yachtsmen's Club's 15th Annual Ocean Race, Essington to Atlantic City, June 23-24, 1922
Second Prize for cruisers under 35'	Yachtsmen's Club's 15th Annual Ocean Race, Essington to Atlantic City, June 23-24, 1922
Second Prize Cabin Cruisers	Atlantic City's 1922 Pageant Boat Races
Second Prize Cabin Cruisers	Chelsea Yacht Club August 5, 1922
Second Prize Cabin Cruisers	Ocean City Yacht Club August 12, 1922
Second Prize Cabin Cruisers	Lulu Temple Yacht Club September 2, 1922
First Prize Cruiser Race	Lulu Temple Yacht Club September 4, 1922
Winner of 1st Leg	Chas. S. Bair Tiffany Cup. Winning of three races necessary to become owner of cup

the boat

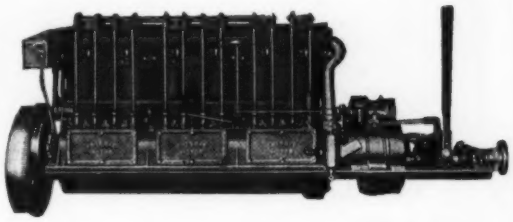
"ANNA F"

Launched Spring of 1922

Owner W. J. Freihofer, Philadelphia

Designer, J. Murray Watts

Builder, Smith & Williams, Salisbury, Md.



the engine

75 H.P. 6 cyl. Model FL Frisbie. Frisbie Motors are noted for their unusual performance records. Complete catalog of 14 models on request.

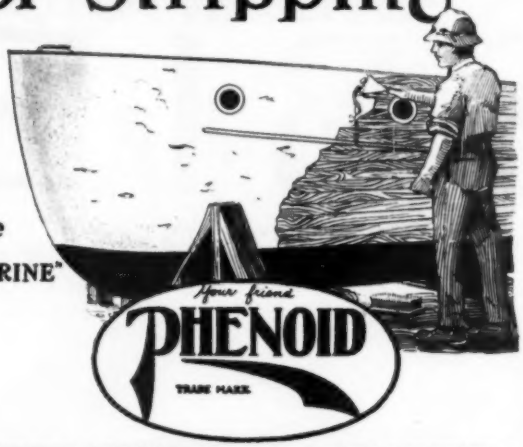
The Frisbie Motor Co.

7 College St., Middletown, Conn.

Manufacturers for over 20 years of overhead valve gasoline and kerosene engines for the propulsion of boats.

Frisbie VALVE-IN-HEAD MOTOR

For "Stripping"



Use "MARINE"

PAINT & VARNISH REMOVER

Use Marine PHENOID for stripping hulls, decks, cabins, and spars. Use Marine PHENOID because it is the quickest, cheapest and best way to remove paint, varnish, enamel or shellac without injury to the surface, to the user or to subsequent coats or finish. Harmless to the most delicate veneers, non injurious to wood, metal, fabric or skin.

PHENOID is the original paint and varnish remover, standard for over 20 years.

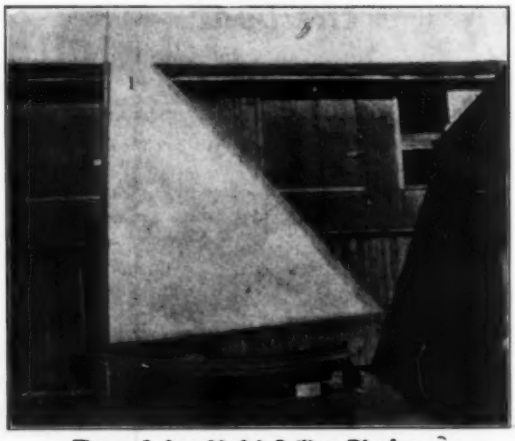
Be sure and ask your dealer for MARINE PHENOID. The best boat supply dealers carry it in stock.

Write for descriptive booklet

CHALMERS CHEMICAL CO.
123 CHESTNUT STREET NEWARK, N. J.

SKANEATELES BOAT and CANOE CO.

Established 1893



Finger Lakes Model Sailing Dinghy

BOATS THAT WILL LAST!

Write for our catalog on Rowboats, Sailboats, and Outboard Motor Boats.

38 Jordan St. Skaneateles, N. Y.

Solving the Secrets of the Compass

(*Continued from page* 118)

inner, smaller rose will represent the magnetic compass. The table is prepared as follows: Example. Magnetic course SW by S, compass course SW¼S, locate SW by S on the inner rose and draw a dotted line from that point to the outer rose which shall strike it at SW ¼ S. Do this for all the data you have. To use the table find the magnetic course as taken from the chart on the inner rose and follow the dotted line from that point to the outer rose. The point where the line strikes the outer rose is the compass-course to be steered.

If the magnetic course you wish to run has no corresponding compass-course on your table an approximate course can be had by looking up the nearest compass-course on each side of the magnetic course and getting the course by approximation. This is fairly safe for a gap of a point or so but it is very desirable to have as few gaps as possible.

There is one point in every deviation table where the deviation changes its name from east to west and where for a few degrees on each side of it deviation may be found easterly at one determination and westerly at another on the same course. This may puzzle you, but it need not be a cause for worry. Take a number of readings about that point, average them and accept the average as correct.

One last word of warning. No matter in what form you make your table or how careful you may believe yourself to have been in getting and tabulating your data, don't consider the table dependable until you have actually run by it and checked up the courses called for on it in actual work. The human mind is fallible and the only safe proof of anything founded on data acquired and recorded by it is the actual application of the result. Make it a practice to run magnetic courses for which you have corresponding compass-courses using your deviation table and see how you come out. It is only through work of this kind that you can legitimately establish confidence in your table.

Successful Correspondence Students

The names of all students who have successfully submitted papers for the Piloting Course, during the month of March, are printed below:

Lesson No. 12: Charles Nagel.

Lesson No. 13: Alfred Alexander, Seymour Bradley, Arthur E. Burgess, Alfred R. Burr, Milton Bergey, Charles Nagel, J. L. Saegmuller.

The following have passed all thirteen lessons and are entitled to certificate:

Alfred Alexander, Seymour Bradley, Milton Bergey, Alfred R. Burr, Charles Nagel, J. L. Saegmuller

The names of all students who have successfully submitted papers for the Dead Reckoning Course, during March, are printed below:

Lesson No. 3: Forrest D. Greene, Jr.

Lesson No. 4: Forrest D. Greene, Jr.

Lesson No. 6: John C. Brodhead.

Lesson No. 7: John C. Brodhead, William O. Yates.

Lesson No. 8: John C. Brodhead, Albert J. Fenton, David Schnitzer.

Lesson No. 9: Vincent Francis, David Schnitzer, Claude E. Wilson.

Lesson No. 10: B. Powell Boell, Albert J. Fenton, Vincent Francis, W. A. Smelser, William O. Yates, C. S. Young, H. T. Zachgo, Frank Zueger.

Lesson No. 11: R. Andren, V. C. Baird, Percy S. Benedict, B. Powell Boell, R. Christie, W. A. Cornell, I. S. Ellsworth, L. P. O'Keefe, C. C. Robinson, E. Roxby, J. K. Sexson, Fred'k. W. Salmon, W. A. Smelser, Morton B. Steele, Claude E. Wilson.

A Book of Winners

Each year Edward Smith & Co. distributes a booklet known as Winners. This is a particularly interesting summary of the winning craft of 1922 in both power and sailing races and a valuable addition to the library of any boat, even if the library consists of only a bookshelf. To obtain this booklet, merely write Edward Smith & Co., 127 West Ave., Long Island City, N. Y., mention that you are a reader of MOTOR BOATING and request a copy of the booklet, Winners.

By the way, the publishers have sent you a polite request for a list of the members in your club so that they may be placed in their Winners mailing list, we trust you will favor them.

Advertising Index will be found on page 138

Be Sure It's Equipped With

RAJAH
SPARK PLUGS

Waterproof Type

WHEN your new motor is delivered, be sure it is equipped with Rajah Spark Plugs, Waterproof Type. You can have them if you insist when you place your order. And it's a point worth insisting on, it you value steady motor service and freedom from ignition troubles. Start the new motor with Rajah Plugs and you'll never change.

While several engine manufacturers furnish Rajah Spark Plugs as factory equipment, in other cases we know of dealers who take out the cheaper plugs furnished by the factory and install Rajahs before delivering the engine to the customer. Other dealers specify Rajah Plugs in their factory orders.

See that protecting hood

and that Waterproof Cap

This Waterproof Rajah Plug is built especially for use in open boats and outboard motors where ordinary spark plugs can never give satisfaction because they are quickly put out of commission by rain, spray and dampness.

When you use a Waterproof Type RAJAH PLUG you can drench your motor without affecting the regularity of your spark—without missing a single explosion. Notice that the outer end of the porcelain is protected by a molded Condensite cap. Over this is a flexible rubber nipple, covering the terminal and extending well over the insulation on the cable.

Under all this protection is standard RAJAH construction—the same excellent design and materials that have made steadfast friends of RAJAH users for more than 20 years. Try a set of RAJAH Plugs and you too will be a friend for life.

Standard Rajah Plug $1.00. Giant Rajah Plug $1.25.
Waterproof Rajah Plug $1.25
Complete with Terminal

If your dealer doesn't sell genuine Rajah Spark Plugs, order direct from us stating thread wanted and mentioning make of motor. To get the best motor efficiency, use a real Rajah Plug in each cylinder.

Equip your spark plug cables with the famous Rajah Terminals. Fit all plugs, made for all size wires.

Rajah Solderless Terminals can be installed on your wires in a few seconds, without solder or tools. Send 15c for sample.

Waterproof
Shockproof
Breakproof
Price $1.25
All Threads

Manufactured by

RAJAH AUTO SUPPLY CO., Bloomfield, N. J., U.S.A.

MULLINS

16 Foot Special Steel Launch

3 H. P. Lockwood-Ash Motor
Silent Under Water Exhaust
SPEED 9 MILES
Price $240
Equipped with Air-Tight Compartments Like a Life Boat
Can't Sink

Safe
Quiet
Speedy

This handsome new model Mullins Steel Launch is equipped with 3H.P. Lockwood Ash single cylinder, two cycle motor and Mullins Silent Under Water Exhaust — complete, ready for operation. It's a real launch—(not merely a row boat with a cheap, inferior engine in it)—quiet, speedy and as safe as a life boat.

The Mullins 16 ft. Special is the most popular family pleasure boat ever designed. Thousands are in service. Hundreds of boat liveries are making money by renting Mullins Launches to the public by the hour or day, the same as row boats, because they are unequalled for safety, dependability, ease of operation, comfort and convenience.

DIMENSIONS

Length, 16 ft.; beam, 4 ft.; draft, 12 in.; length of cockpit, 11 ft. 4 in., seats 8; net weight, 500 lbs.; crated weight, 700 lbs.; crated foreign shipment, 1000 lbs.; cubic measurement, 210 cubic ft.; code word, PEP.

Write for Complete Catalog—of Mullins Steel Motor Boats, Launches, Row Boats, Hunting and Fishing Boats.

MULLINS BODY CORPORATION
Boat Department 665 Depot Street, Salem, Ohio.

Yard and Shop

(*Continued from page* 47)

ignition system, the Elto's designer has succeeded in producing a motor which starts absolutely upon the first quarter turn without the use of ropes or starting devices of any kind. It is never necessary to swing the Elto flywheel over compression. It is simply brought up with a slight pull against the opposite compression where it starts instantly, in hot or cold weather, in atmosphere wet or dry. There are no parts to be returned to the factory for remagnetizing and every hardware store is a service station, when, after an entire season's use, the battery needs replacing.

Weather-Proof Clothing

All outdoor men find times when they need weather-proof clothing. A new and indispensable two-piece slip overall has been made available for this service. Light weight weather-proof clothing was found necessary in the various navies during the world war to protect the crews from wind and water, as well as cold. Suits of this type are now available commercially for the yachtsmen of the country and are made of a double faced pliable material, waterproofed by a layer of rubber inserted between the outer and inner fabrics. The suits are provided with an adjustable hood, draw strings at the bottom of the blouse and at the waist of the trousers. The makers of these garments, the Adria Company of New York, are prepared to supply these garments to the trade.

Johnson Water-Bug

The little twin cylinder outboard motor made by the Johnson Motor Company, South Bend, Ind., has been re-christened and is now called Water-Bug. This popular little machine is known particularly by reason of its light weight and endurance. On a weight of only thirty-five pounds it has made some wonderful trips, notably one of 4,000 odd miles, through the Great Lakes by Arthur Ohme of Chicago.

For Leaky Decks

For filling the seams of decks and similar places to make them watertight, a special elastic seam composition is being made by H. B. Fred Kuhls, Brooklyn, N. Y. This material is flexible and remains elastic at all times, adhering firmly to the sides of the seams and yielding to the swelling and shrinking of it. The material is easily applied and can be used without the requirement of special appliances. A sample will be sent to interested readers.

More Equipment for Brennan

The Brennan Motor Company of Syracuse, N. Y., has recently acquired the receivers rights of the Owen Magnetic Motor Car Corporation, Wilkes-Barre, Pa. The equipment purchased is of the highest grade and the additional facilities afforded by it will be used to increase the production of marine engines at the Brennan plant.

New International Cruisers Are Ready

Production of the new 1923 models of the International 32-ft. cruiser is well under way at the plant of the International Shipbuilding & Marine Engineering Corp., at Nyack, N. Y., and the first of the completed cruisers are ready for their owners. Other cruisers are coming through the shops in regular order, and are now in various stages of completion. At present it is possible to promise delivery to meet the desires of purchasers, but this condition is not likely to exist after the opening of the active season, since F. M. Hartman, the general manager, states that interest in the new models indicates a demand that will tax the plant's capacity.

A number of slight changes and refinements are apparent in the new models, but in general the same sturdy construction and the same excellence of finish and equipment are embodied in the new boats which made the International 32 standardized cruiser a favorite with experienced owners.

The equipment is complete in every particular, so that the International 32 is ready to cruise when delivered. The same power-plant which proved so satisfactory in previous models, the Kermath 20-h.p. unit powerplant with electric starting and lighting system has been retained. However, the 1923 models are offered also with the new 35-50-h.p. Kermath motor, and with the larger powerplant a speed of 12 miles is promised.

Arrangements have been made to keep a demonstrating cruiser ready at all times at the plant, and plans have been made to have a demonstrator available at some convenient point in New York City to meet by appointment those who wish to see the cruiser and to observe here in operation.

Advertising Index will be found on page 138

This symbol is your guarantee of satisfaction

THE NEW AND IMPROVED L-A ROWBOAT MOTOR

Propels your boat anywhere it will float

THINK of it—anywhere a boat will float the new and improved L-A Rowboat Motor will drive your craft. In water ankle deep, over submerged rocks, sand bars, snags and deadheads, the L-A will take you there and back, *without damage to your boat—without damage to your motor. It is double proof against stones, snags, deadheads.*

The *L-A Self-Tilting Device* protects the back end of your boat—the *L-A Safety Propeller* (patent applied for) protects the motor itself. Built on an entirely new principle, this propeller will take a battering from rocks, snags, sand bars or deadheads, *and will continue on its way, uninjured.* No pins to shear—nothing to repair. *It gives you absolute dependability under all conditions.*

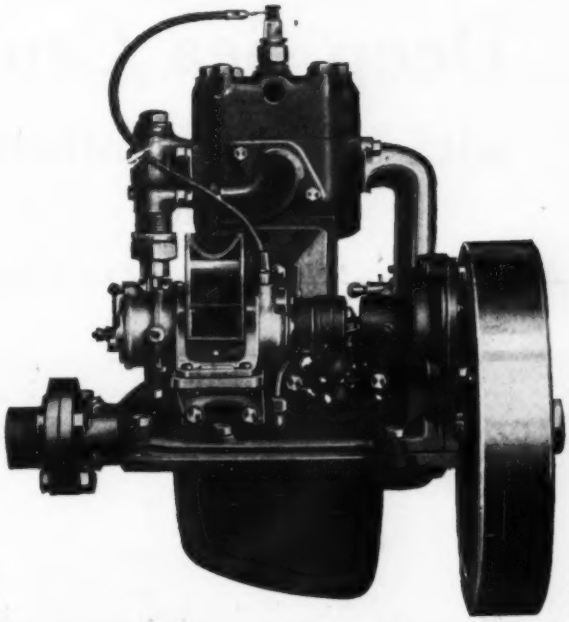
PRICE:

$95.00

completely equipped

Standard Equipment

Double-duty, built-in flywheel magneto; Easy rope starter; self tilting device; Safety propeller (patent applied for); Cast aluminum, indestructible gas tank. The new L-A Rowboat Motor offers a remarkable value—investigate it early.



THE UNIQUE L-A MODEL 41

Single-cylinder, 4-cycle, 5 H. P. Motor

ADOPTED as standard equipment for 1923 by the largest boat builders and distributors in the country.—Built around Ford Sized Parts—replacements anywhere.—Equipped with Bosch High Tension Magneto, Impulse Coupling and Stopping Button.—Speed Range 300 to 1000 revolutions per minute.—Weighs approximately 165 pounds.—Price complete, $117.50, F.O.B. Jackson—with Joe's Reverse Gear, $157.50.—This is the motor you have always wanted.

Write today for full particulars

Including complete description of these exceptional features: Counterbalanced crankshaft—Special breather pipe—Liberal main bearing surfaces—All bronze water pump with stuffing nut—Bronze eccentric strap—And many others.

ASK FOR GENERAL CATALOG showing complete line of two and four cycle motors, 2½ to 16 h.p., for boats from 15 to 35 feet. Priced $77.50 to $600.00.

Dealers—Some good territory still open

LOCKWOOD-ASH
—MOTOR— L-A —COMPANY—
315 JACKSON STREET JACKSON, MICHIGAN

Builders of Marine Engines for 20 Years

A Big Roomy

Deep Sea Cruiser

with all the comforts of home

A boat you'll be proud to own

GORDON

Specialized Cruisers

Model A
33'6" x 9' x 3'. Speed 11 miles. 20 H.P. Kermath. $3,500.

Model B
34' x 9'3" x 3'. Speed 14 miles. 35 H.P. Kermath, mahogany trim thruout. $4,500.

Model C
Shoal Draft Cruiser, 36' x 8' x 16". Speed 17 miles. 50-55 H.P. Kermath. $5,800.

Atkin Designed — GORDON BUILT — Kermath Powered

What more could you ask in your ideal cruiser? It has every accommodation and convenience you ever saw in a boat of its type. Sleeps up to seven people, 6'2" headroom, separate toilet room, complete galley, refrigerator, self-starting Kermath motor under cockpit floor entirely separated from cabin,—and the big cockpit shown above speaks for itself!

It is a wonderful sea boat, fast and able, beautifully finished inside and out, and staunchly built to last a lifetime. White cedar planking; oak frames, steam bent. One man control. Electric lights. Complete enough for long cruises or living aboard,—handsome enough for any taste and any fleet.

This is the kind of a boat that gives you the fullest measure of boating satisfaction with the least initial expense and lowest possible upkeep.

Where shallow waters must be navigated, you cannot find an equal to the Gordon 36' Shoal Draft Cruiser. This boat is remarkable because it has only 16" draft loaded and the propeller always swings in solid water. There is no tunnel. The underbody aft is concave while the sections forward are V-bottom, making it easy driving with good speed, and safe and seaworthy in deep water and bad weather. Motor installed under forward deck.

We can finish this boat as a glass cabin day cruiser or with after deck and interior cabin arranged like the deep sea model illustrated above. The price of $5,800 covers all mahogany double planked hull and full equipment.

These GORDON Specialized Cruisers are standardized designs but are built only on order. We can accept very few more orders for early summer delivery. Better get in touch with us without delay.

Write or phone today for complete illustrated description

THE GORDON BOAT BUILDING COMPANY 250 Huron St., Brooklyn, N.Y.
Phones: Greenpoint 4946, 4947

Advertising Index will be found on page 138

EXTRA RESERVE
STEARNS
MARINE ENGINE

Big Production Makes Stearns Prices Low

A FEW minutes study will quickly prove to you that the prices of Stearns Extra Reserve Marine Engines are lower than any other marine engines of their size, horsepower and quality. Stearns prices are the result of big production under the most efficient conditions in a factory that is completely equipped for economical manufacturing. There is nothing cheap about them but the price.

Stop and consider this question of manufacturing cost.

You know the economy of efficient quantity production.

You know that a manufacturer who builds several thousand engines a year can afford to be more particular about his basic design than the manufacturer who builds only a few score or a few hundred engines.

You know that competition forces the big manufacturer to study efficiency and economy if he wants to sell his entire output without difficulty.

We have never built automobile, truck or aviation engines, but we do supply Stearns Extra Reserve Engines for many of the finest industrial units made in America.

Such things as automatic shovels, mine locomotives, heavy duty tractors, etc., where service requirements are far more severe than any marine installation.

Stearns Engines have the largest crankshaft and bearings ever used in a marine engine of equivalent power.

They have the most positive lubricating system that can be designed,—oil under pressure of 5 to 30 lbs., forced through direct leads to every bearing and friction point.

They have the most approved design of modern engineering practice.

That is why Stearns Extra Reserve Engines give you better service and cost less than any other engines in their class.

Write for information about Stearns De Luxe Lighting Plants.
1500 watts, 32 volt, $395. 1500 watts, 110 volt, $544.
Prices include batteries.

Stearns Motor Manufacturing Co., Ludington, Mich., U. S. A.

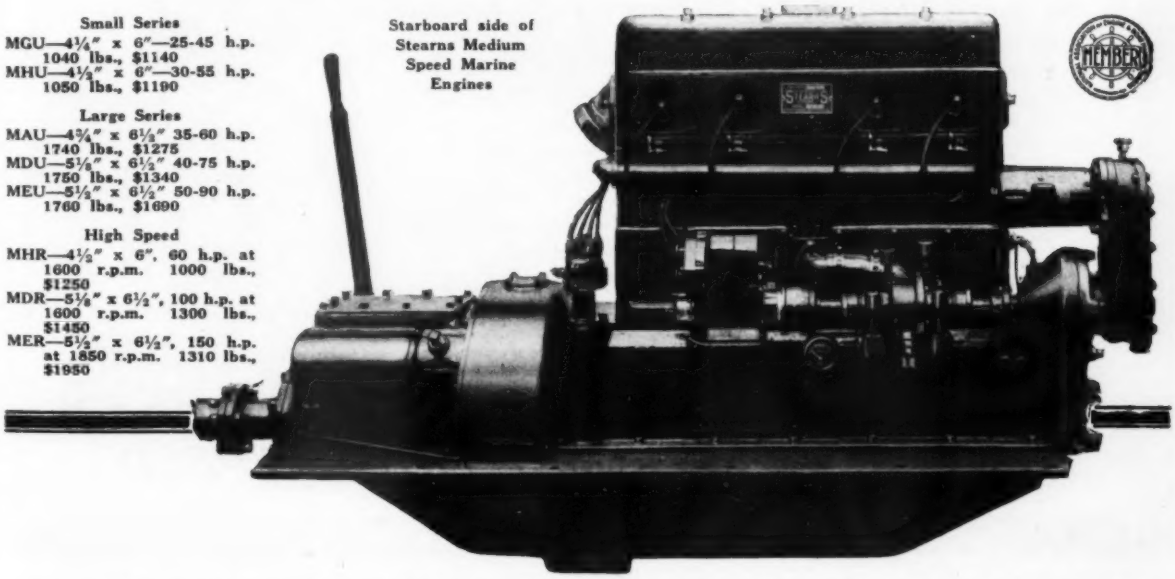
Bowler, Holmes & Hecker Co., Inc., 259 Greenwich St., New York City
Fellows and Stewart, Wilmington, Calif.
H. G. McLaughlin Co., Inc., 809 Railroad Ave., Seattle, Wash.
W. L. Masters & Co., 229-231 N. State St., Chicago, Ill.
Wm. F. Meier, 1433 West 77th St., Cleveland, Ohio
Deans' Sunnyside Pleasure Boats, Ltd., Toronto, Ont., Canada
Stauffer, Eshleman & Co., Ltd., New Orleans, La.
Stearns Motor Mfg. Co., 3420 McDougall Ave., Detroit, Michigan

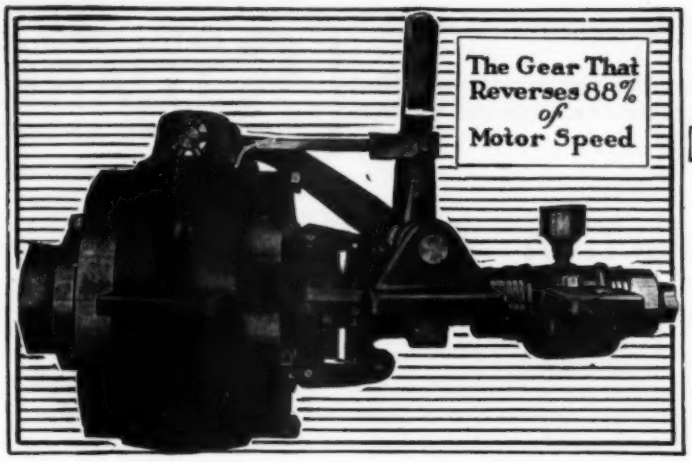
Small Series
MGU—4¼" x 6"—25-45 h.p. 1040 lbs., $1140
MHU—4½" x 6"—30-55 h.p. 1050 lbs., $1190

Large Series
MAU—4¾" x 6½" 35-60 h.p. 1740 lbs., $1275
MDU—5⅛" x 6½" 40-75 h.p. 1750 lbs., $1340
MEU—5½" x 6½" 50-90 h.p. 1760 lbs., $1690

High Speed
MHR—4½" x 6", 60 h.p. at 1600 r.p.m. 1000 lbs., $1250
MDR—5⅛" x 6½", 100 h.p. at 1600 r.p.m. 1300 lbs., $1450
MER—5½" x 6½", 150 h.p. at 1850 r.p.m. 1310 lbs., $1950

Starboard side of Stearns Medium Speed Marine Engines





Lockwood-Ash Motor Company Puts It Up to Old Man Joe

Let Mr. A. L. Lockwood, President, tell you why:

We are pleased to advise you that because of the eminently satisfactory service that your reverse gear have given us on our two cycle marine engines, we are adopting it for use on our Model 41, single cylinder, four cycle 5 H.P. motor.

Our experience over the past three years has convinced us that the Little Joe gear with high ratio of reverse, with its rugged strength, coupled with its light weight, is the logical reverse gear to use on a two-cycle and four-cycle engine of the sizes we build, and we take pleasure in assuring you that you shall receive our entire reverse gear business this year.

Respectfully yours,
LOCKWOOD-ASH MOTOR COMPANY,
A. L. Lockwood, President

Please Note:
This letter is the fourth of a series. Copies of previous letters can be obtained upon request. Watch our advertisement next month for what Mr. Bird of the Camden Anchor-Rockland Machine Co. says.

Here are five more

Mianus
Peerless
Bridgeport
Camden Anchor-Rockland
St. Lawrence River
Motor & Machine Co.

More leading engine builders use Joes Gears as regular equipment than any other make.

—put it up to old man Joe

The Snow & Petrelli Mfg. Co., 154 Brewery St., New Haven, Conn.

Distributors and Service Stations That Carry Joes Gears and Parts in Stock and Will Gladly Give You Free Service

New York—Sutter Bros., 44 Third Ave., Service Station foot of E. 92nd St., Brooklyn.
Clayton, N. Y.—St. Lawrence River Motor & Machine Co.
Philadelphia, Pa.—W. E. Gochenaur Mfg. Co., 631 Arch St.
Baltimore, Md.—Unger & Mahon, Inc., Pratt & Gay Sts.
Detroit, Mich.—Henry H. Smith & Co., 252 Jefferson Ave., East.
Cleveland, Ohio—Wm. F. Meier, 1433 W. 77th St.
Chicago, Ill.—W. L. Masters & Co., 229 North State St.
New Orleans, La.—Arthur Duvic's Sons, 130 Chartres St.
Southern California—Fellows & Stewart, Inc., Wilmington.
Seattle, Wash.—Pacific Marine Engine Co.
Toronto, Canada—A. R. Williams Machinery Co.
Montreal, Canada—Semmelhaack-Dickson, Ltd., 333 St. James St.
Canada — All Branches — Canadian Fairbanks-Morse Co.
Newfoundland—John Baron & Co., 241 Water St., St. John.
New Brunswick, P. E. I.—T. McAvity & Son, St. John, N. B.
England—J. King & Co., 10 Church Row, Limehouse, E., London.
Turkey—Filiale di Constantinople, Galata, Palazzo Karakeuy, No. 13-15.
Argentine, S. A.—J. Banham & Sons, Buenos Aires.
Australia—Acme Cycle Co., Melbourne.
Philippine Islands—Pacific Commercial Co., Manila.

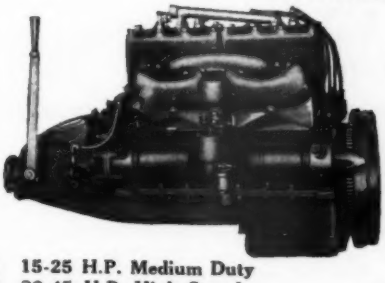
JOES FAMOUS REVERSE GEARS

REVERSE 80%-88% of MOTOR SPEED

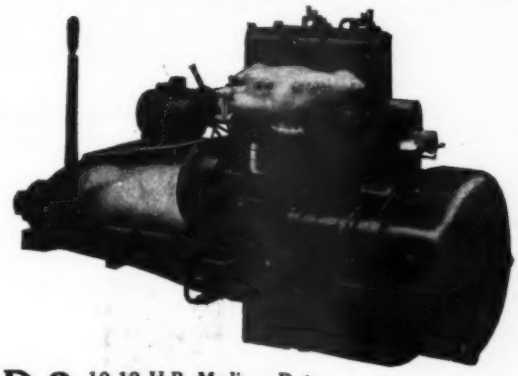
Advertising Index will be found on page 138

Scripps

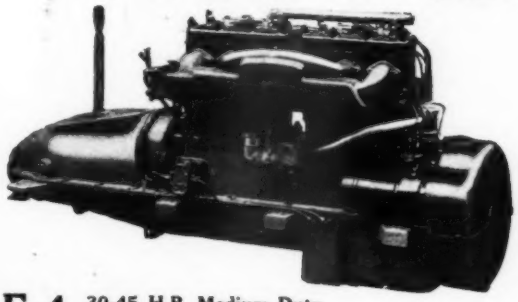
"The motor that crossed the Atlantic"



F-4 15-25 H.P. Medium Duty
30-45 H.P. High Speed
Including Electric Starter **$750**



D-2 10-12 H.P. Medium Duty
15-18 H.P. High Speed
Including Electric Starter **$650**



E-4 30-45 H.P. Medium Duty
45-70 H.P. High Speed
Including Electric Starter **$1250**

E-6 40-60 H.P. Medium Duty
65-100 H.P. High Speed
Including Electric Starter **$1750**

THAT wide-spread desire eventually to own a SCRIPPS is a tribute not alone to the SCRIPPS quality of performance, but likewise to the distinction the SCRIPPS has always borne.

With the ideal motor, the universally desired motor appearance goes hand in hand with performance.

There can be neither freaks of design nor frills of encumbering equipment. There must be originality characterized by good taste, so that a stencilled, stereotyped suggestion is avoided. Only genuine beauty endures.

In its familiar SCRIPPS lines, its characteristic details, its rich finish, the SCRIPPS bears the hall mark of its makers. It immediately identifies itself and vindicates the good taste and good judgment of its owner.

Scripps Motor Co.

5819 Lincoln Avenue
Detroit, Mich.

"Every Moving Part Enclosed"

PALMER ENGINES

TRADE MARK REG. U.S. PAT. OFF.

Power Your Boat with a Palmer Engine

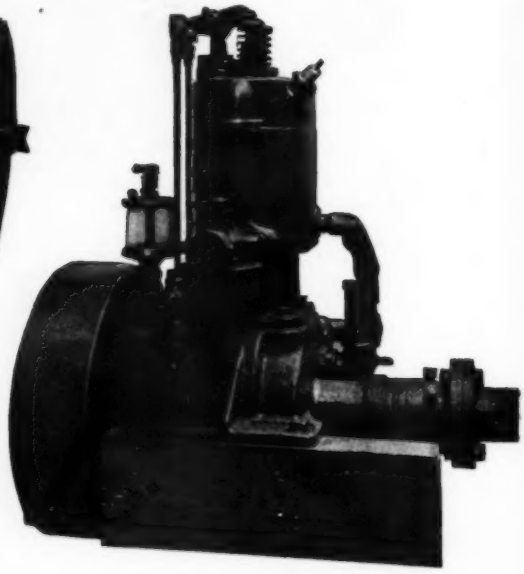
Palmer Engines are reaping the reward of more than a quarter century of honest manufacturing and fair dealing. Year in and year out, Palmer popularity grows as new buyers are added to the hundreds of boatmen who are operating Palmer Engines with supreme satisfaction.

Palmer Engines are built for every type of boat, 2 H.P. to 80 H.P. High speed, medium duty and heavy duty.

Model VH, 14-16 H.P.

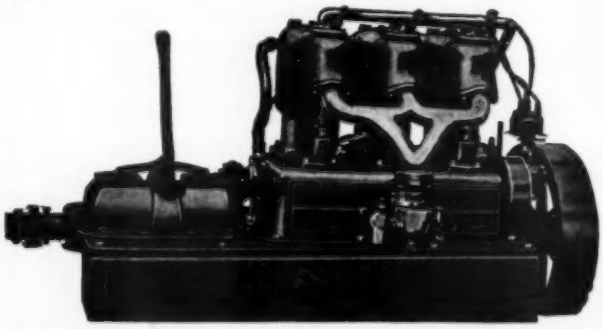
A high speed four cycle engine with enclosed overhead valves and overhead camshaft. Equipped with starter, generator, battery, high tension magneto, jump spark ignition. Four cylinders, cast en bloc.

There isn't a handsomer, smoother running or more up-to-date engine on the market than the Palmer Model VH.



Model YT, 2 H.P.

A four cycle valve-in-head motor designed especially for yacht tenders and other small boats. Weight 95 lbs.



The famous Palmer NR the most popular medium duty marine motors on the market. Bore 5 inches. Stroke 6 inches.

NR-2	10-12 H.P.
NR-3	15-18 H.P.
NR-4	20-24 H.P.

You'll never find a better built, more carefully designed or more reasonably priced motor than the Palmer, no matter which size and type of Palmer engine you consider.

Write today for latest illustrated catalog

PALMER BROS., ENGINES, Inc., Cos Cob., Conn., U.S.A.

Branches and Distributors:

New York, 128 Lexington Ave., bet. 28th & 29th Sts.
Baltimore, 306 E. Lombard St.
Philadelphia, 9 N. 6th St.
Portland, Maine, Portland Pier.
Boston, Mass., Rapp-Huckins Co., 59 Haverhill St.
Norfolk, Va., Gas Engine & Boat Corp.
Jacksonville, Fla., 122 So. Ocean Street.
Vancouver, B. C., V. M. Dafoe.

Advertising Index will be found on page 138

New Champion Service Kit Preserves Spare Plugs

The Champion Service Kit does away entirely with spark plug trouble on the cruise. It absolutely protects your spare spark plugs from injury. It keeps them fit for immediate installation, ready to function as efficiently as only Champions can.

Every motor boat owner knows how hard it is to carry ordinary spark plugs safely. In the tool kit they are frequently damaged. The carton is broken. The electrodes bent. Perhaps the core is cracked. When plugs are needed—always in an emergency—they are often not fit for use.

The Champion Service Kit ends all that trouble. It is strongly made of durable metal. It holds a set of dependable Champion spark plugs in their individual cartons. They are safely packed against injury and may be carried for months.

So the Champion Service Kit insures the boat owner against delay and inconvenience on the cruise. If a plug goes wrong he knows he has a dependable Champion ready to replace it in a moment.

Remember, too, that Champion is the better spark plug. Better because of its wonderful new core.

This core—identified by the Double-Rib—was developed by Champion scientists after years of laboratory work. It will stand stress far more severe than it will ever encounter in service. It is proof against all extremes of heat and cold. It never loses its insulating properties.

Ask any dealer for dependable Champions. Get four or six of them in the Champion Service Kit and carry them in your boat at all times.

CHAMPION X

Champion X is the recognized standard spark plug for Ford Cars and Trucks and Fordson Tractors. Recognized by dealers and owners for 10 years as the most economical and efficient spark plug. Sold by dealers everywhere.

You will know the new Champions by the Double-Ribbed core. Buy them by the set. From any dealer anywhere. A type and size for engines of every make and model

Champion Spark Plug Co.
Toledo, Ohio
Champion Spark Plug Co. of Can., Ltd.
Windsor, Ontario

CHAMPION

Dependable for Every Engine

The STAR of the STARS

"IREX"
Owner
E. Ratsey
33 Starts
27 Prizes

THE Star Class with its increasing popularity has amongst its fleet a "Star performer," the "Irex," which through the resourceful handling of its owner, helped by her "Ratsey sails" and

"CUP DEFENDER VARNISH"

made the sterling record of winning twenty-seven prizes out of thirty-three starts.

"CUP DEFENDER VARNISHES" have been unanimously chosen as the best to cover all of America's Cup Defenders in the International Races for the "America's" Cup.

They helped the "Clytie" and "L'Esprit" to glide over the line to victory in the Six-Meter Race, and may be seen on the largest and fastest Yachts of today, such as

The new "WINCHESTER" Owner Peter W. Rouss

"WHILEAWAY" Owner H. P. Whitney

"NOURMAHAL" Owner Vincent Astor

Only hard fossil gums used—No Rosin

EDWARD SMITH & CO.
129 West Avenue, Long Island City, N. Y.

Smith's Spar Coating Yacht White

CUP DEFENDER VARNISHES

"Aquatite" Varnish Yacht Deck Paint (Buff)

CLARENCE A. O'BRIEN
PATENT ATTORNEY
REGISTERED IN UNITED STATES PATENT OFFICE
MEMBER OF THE BAR OF
SUPREME COURT OF UNITED STATES COURT OF APPEALS DISTRICT OF COLUMBIA
SUPREME COURT DISTRICT OF COLUMBIA UNITED STATES COURT OF CLAIMS
PRACTICE CONFINED TO PATENTS AND TRADE MARKS

EXPERIENCE SERVICE

PATENTS

Any new article, machine, design or improvement thereof, or any new combination of parts or improvements in any known article which increases its efficiency or usefulness, may be patented, if it involves invention.

IF YOU HAVE ANY NEW IDEAS which you feel are useful, practical and novel, take prompt action toward protecting your rights. If you have invented any new machine, or new combination of parts or improvements, or new process or design,

SEND DRAWING, MODEL OR DESCRIPTION of it for information as to procedure to secure protection.

WRITE TODAY FOR BLANK FORM *"Evidence of Conception"* to be returned to me with drawing, description or model of your idea. Promptly upon receipt by me of your idea I will write you fully as to procedure and costs.

NO CHARGE FOR THE ABOVE INFORMATION

All communications are held in strict confidence. My personal, careful and thorough attention is given to each case. I offer you efficient, reliable and prompt service—based upon practical experience. *Highest references.*

Write today for free book "*How to Obtain a Patent.*" This book will give you valuable information, and it may save you much time and effort. *Send for it NOW.*

My practice is devoted exclusively to United States and foreign patents and trade-marks. Very probably I can help you. Write today.

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Name.....
Address.....
(WRITE CLEARLY)

Lake Michigan as a Cruiser's Play Ground

(*Continued from page* 43)

mac Island. Many are the stories of Chicago yachtsmen who have started on an ambitious cruise to circumnavigate the lake but failed to make good because the natural charms of the harbors, lakes and inlets on the route held them captive as it takes time to loaf properly 'mid nature's charms.

The west shore harbors are not so numerous and are not attractive, most of them being industrial harbors. The shore is not picturesque. Numerous fish net stakes exist in the offlying waters for a maximum distance of two miles out. Rocky shoals and reefs abound and off-shore cruising along this coast line holds no special attraction to the motorboat man.

The Green Bay country has a number of isolated harbors endowed with all the beauties of nature which are yearly visited in large number by Chicago yachtsmen. This body of water is reached from the south through the Sturgeon Bay Ship Canal after an uninteresting run of over 200 miles from Chicago. The better plan is to cruise leisurely north along the east shore to Frankfort, Michigan, and thence across the lake to the Sturgeon Bay Ship Canal, a distance of 53½ miles W. ⅞ N. (magnetic).

Chicago is the largest city and most important port on the lake and is naturally the base of operations or ultimate objective of the motorboat man cruising on Lake Michigan, hence a brief description of the available facilities for owners of pleasure boats seems desirable. In addition to two industrial harbors formed by the Chicago River at Chicago and the Calumet River at South Chicago there are four harbors devoted exclusively to pleasure boats. Two of these harbors are located in Lincoln Park, distant three and four miles, respectively, north of Chicago River entrance, and are locally known as Belmont Harbor, the home port of the Chicago Yacht Club, and South Lagoon, the home port of the Chicago Motor Boat Club. These two harbors provide anchorage for approximately 350 boats of all sizes. Arrangements for anchorage in either harbor may be made with the Commissioners of Lincoln Park. The Chicago Yacht Club also maintains a club house in the Chicago Harbor basin immediately south of the entrance to Chicago River and in front of Grant Park, which lies lakeward of the business section of the city. Here a public anchorage is maintained under the supervision of the United States Anchorage Officer and is open to all classes of vessels free of cost.

At Jackson Park, about seven miles south of Chicago River entrance, there are two harbors locally known as inner and outer harbors. The outer harbor is the home port of the Jackson Park Yacht Club and the inner harbor is the home port of the South Shore Power Boat Club. The combined anchorages provide accommodation for approximately 300 boats of all sizes. Arrangements for mooring in these harbors may be made with the harbor master employed by the South Park Commissioners.

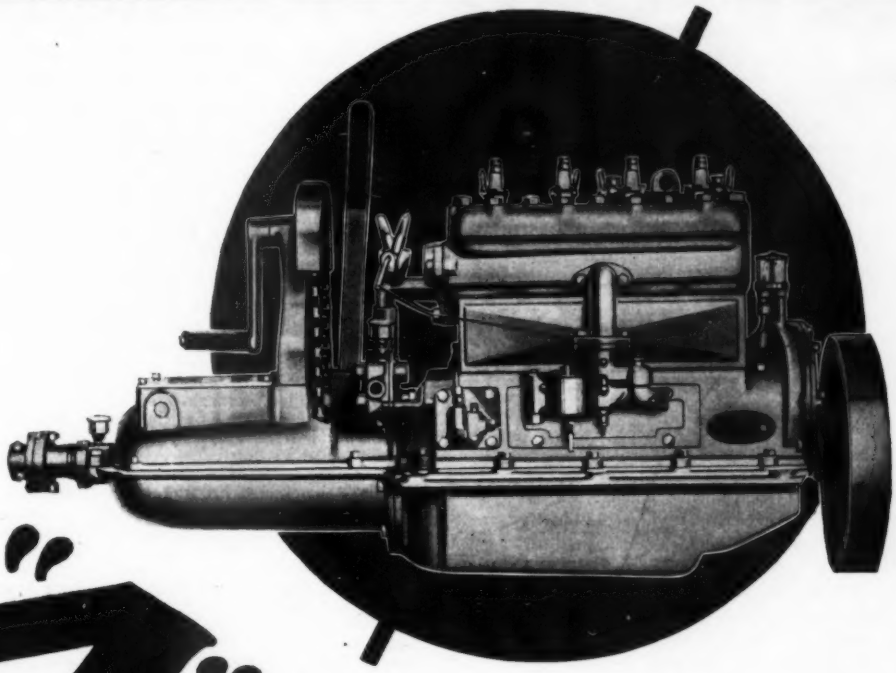
Visitors are accommodated in any of the four park controlled harbors for short periods free of charge. For permanent moorings in the park harbors mooring fees are charged ranging fom $10 to $30 for the season, depending upon the size of the vessel. In Jackson Park the Park Commissioners furnish anchors and mooring buoys, while in Lincoln Park boat owners must furnish their own anchors and mooring buoys. Each of the four park harbors is attractively situated and provides safe and delightful anchorage in all weathers.

Nepenthe Travels Far

Readers of MoToR BoaTinG will recall Nepenthe, the 47-foot cruiser, built for Van Campen Heilner, which was described not long ago. We have heard that the boat is making excellent progress on its long cruise and J. Murray Watts, the designer, writes to the Scripps Motor Company about it, as follows: "As you know we have installed your engines in a number of boats, I am glad to state that they have proved satisfactory. It may interest you to know that the two six-cylinder Scripps engines which we installed last fall in the 47-foot cruiser Nepenthe, built from our designs for Van Campen Heilner, have proved very reliable during the trip to South America this winter. Mr. Heilner started off with one other man, about the first of the year from Atlantic City, and has been on a cruise through the West Indies. Some weeks ago I heard from him after his arrival at San Juan, Porto Rico, and later from Guadeloupe, and I believe he has now gotten as far as Trinidad. He tells me that they have encountered some terrific storms this winter, but owing to the reliability of the Scripps engines, they were able to have the boat under perfect control at all times. As this is one of the smallest motor yachts to take a winters' cruise of such long duration, I feel that you ought to be very proud of the performance of your motors."

Advertising Index will be found on page 138

STANDARD OF THE WORLD FOR BOATS FROM 14 TO 30 FEET



"4" CYLINDER

-is the motor- and this is the "Four"

RIGHT in principle—to begin with! And *right* to the last micrometer inspection in the making!

"Universal" goes into your craft not as a mere motor—not as a showily trademarked piece of machinery. Universal goes into its place as *a complete, trouble-free unit of power*—the finest our 23 years of motor engineering and building have taught us to produce. In "Universal," we believe, you buy more day-in-and-day-out dependability for every motor dollar than you've ever known before.

Send for Catalog

BE sure to mention size and type of boat you're figuring on. The price of a Universal is certain to surprise you pleasantly.

Atwater-Kent igniter or Bosch magneto; self-starter if you wish; eight distinct variations of assembly to choose from—but only one motor. Accessible. Economical.

Makers also of the famous Universal 2 K.W. to 25 K.W. Electric Lighting Plants—for BOAT LIGHTING, camps, summer and suburban homes, farms, theatres, etc. Ask for Bulletin 30.

Universal

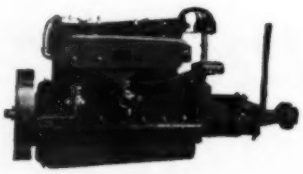
4 Cylinder
Four Cycle
9-12 H.P.
Marine Motor

UNIVERSAL MOTOR CO. 40 Ceape St. OSHKOSH, WISCONSIN

NOT CONNECTED WITH ANY OTHER COMPANY USING THE NAME "UNIVERSAL"

SERVICE

We have solved the problem of efficient Marine Motor *SERVICE*, regardless of where the boat is operated—service wherein new parts are needed and supplied quickly—that's the kind of *SERVICE* we give. No delays, no misfits—whatever part fits a Ford engine will fit the "*Cadyford*." The constituent parts are the best and most carefully made that modern manufacturing methods and skilled mechanics can produce.



CADYFORD MOTORS
4 cyl. 4 cycle—
12 to 25 H.P.

COST

We not only give *SERVICE* as the name commonly implies, but we give *SERVICE* in *initial cost*. The *Cadyford* is the lowest priced motor of its kind on the market, from the open type, equipped with Atwater-Kent and no reverse gear for $280.00 to our Special type, completely enclosed, with high tension magneto, overhead valves, electric starter and reverse gear for $600.00. We also build 2 cycle motors from 1½ to 8 H.P.—$50 to $170. Our catalog is free; write for it.

There is a CADY Dealer near you;
Write for his address

C. N. Cady Co., Inc.

304D Centre St., Canastota, N. Y.

PIONEER
MARINE ENGINE MANUFACTURER

Established 1883

The Big Opportunity of the Motor Boat Industry

(*Continued from page* 48)

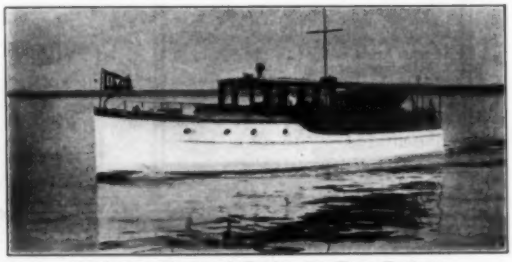
plane in the Mediterranean Sea off Monte Carlo when the waves were running 3 to 4 feet high and the sea was so rough that the races for the 50-foot displacement boats were called off. By manipulating the throttle I could go around 20 to 25 miles, but faster than this the waves would pass completely over the boat, filling the cockpit half knee-deep with water which I quickly drained out through a 4 inch valve hole made behind a step for this purpose. Next year the trial runs of the 40-foot Pioneer had to be run in rough water over the Admiralty course off the Isle of Wight and a speed of 46 miles was made in very choppy water, on which Pioneer ran like a greyhound, whereas a slow boat would have pitched and made some people seasick.

Now the hydroplane combines the advantages of being the best type of high-speed boat and, at the same time, it may be made as seaworthy and have the essential conveniences of the displacement cruiser for a day's outing or weeks on the water. No one has ever fully realized the feasibility and business opportunities in combining two different types of boats, high speed and slow speed in one—business which the present engine and boat builders do not get because the combination of such slow-speed-high-speed types in one is not practical in the displacement boat.

A cruiser must have plenty of beam to be roomy and seaworthy, whereas, for high speed, narrow beam lines cut through rough water with the least resistance and pounding. As an example of how I would get these results combined in a hydroplane cruiser, I propose to design the hydroplane V-sections deeper than in the racing boats and of such beam and displacement that at planing speeds as the boat lifts, there would be very little water friction on the sides of the hull above the planes. Next, to secure the additional beam and displacement stability necessary for a cruiser, I would bulge out the sides of the hull above the planes. In the multistep construction the planes need be only about half the length of the distance between steps, and, as such steps are only about one inch deep, the hull is built to the desired V section, the planking laid and then the short planes put on over this. The cost of this plane construction should not exceed 25 to 50 dollars for a 35-foot hull.

Coming to the important question of power equipment, it would get on my nerves to run a 40 mile motor when I wanted to loaf along or was compelled to run slowly because of rough water. Therefore, it is desirable to arrange the power installation so that the high-speed motor can be clutched out and the propeller turned at slow speed with a small motor which would give 5 to 10 miles. A double installation of this kind has the great advantage of a reserve motor for convenience and security. Ballast is necessary in a sail boat to give stability, but V-plane hydroplanes have dynamic stability and dead weight means waste of power.

In a large cruiser a very reliable power equipment could be had by installing two high power marine motors driving two propellers, and one of these motors might be double the power of the other so that ordinarily the smaller motor would be used for slow speed and both for maximum speed. Again, while one high power marine motor might be preferred by some for the smaller cruisers, I believe that the biggest demand would be for a type in which the slow speed and high speed motors were combined on the same base to drive one propeller, and so that one or the other could be clutched out. Obviously there are different ways in which the advantages of this construction can be worked out.



Rochester Enclosed Bridge 50 Foot Cruiser

Builders of unusual high grade standardized cruisers 40-45-50-55 and 62 feet in length. Write for data on size of interest.

Originators of the Standardized Enclosed Bridge Cruiser.

ROCHESTER BOAT WORKS, Inc.
10 Charlotte Station **Rochester, N. Y.**

Advertising Index will be found on page 138

Un-approachable!

Not only in Light Weight, ~ but in 15 other ~ Outstanding Features

THE marvelous light weight of the Johnson Twin—only 35 pounds complete—is just one of sixteen reasons for Johnson preference wherever used or shown.

Admittedly, it is the easiest of all motors to carry. Any pair of scales proves that. Admittedly, it is the most convenient in traveling. You take it apart easily at one joint for packing in handy case to slide under Pullman seat or in your car like a suitcase.

But any Johnson owner will tell you that it is *on the water* that the Johnson Twin is unapproachable.

For example, the patented Johnson Universal Steering feature drives the boat forward, backward, sidewise, or in a complete circle, with equal ease. It darts in and out and through the water "Like a Water Bug." Both cylinders fire at the same time, insuring smooth, quiet power. You feel no shaking of the boat or canoe. You hear no loud noise that drowns out voices. You tilt the propeller freely out of water while the motor is running. If you strike a log, rocks or shallows, your Johnson tilts automatically, and automatically returns to its former position without damage to motor or boat.

You have no mixing valve to fuss with. The Johnson has a real Float-Feed Carburetor. You have no batteries to lug or replace. You always get a hot, quick spark from the built-in, Quick Action Magneto, which is moisture and oil-proof. The Spark and Throttle Control gives you at the touch of the fingers trolling speed, racing speed, or any speed between. There are no oil holes or grease cups to soil clothing. The simple Cord Starter has no knobs to catch clothing. The patented Anti-cavitation Plate prevents under-water air pockets, and gives you full benefit of the motor's propelling power.

The Johnson is also unapproachable in its years of service. It has one-piece, Drop-Forged Steel, Case-Hardened Crank Shaft, Drive Shaft and Propeller Shaft—all running in Phosphor Bronze Bearings; Bevel Gears of Heat-Treated Nickel-Steel. No valves to grind, no valve springs, tappets or timing gears to wear. Beautifully finished in polished "Lynite" and Nickel. No paint or enamel used.

Thousands of enthusiastic Johnson owners and America's leading sporting goods dealers will tell you that in dependability, durability, performance and light weight,—

"Johnson is Right"

Write for Free Catalog Folder Today

THE JOHNSON MOTOR CO., 860 Sample Street, SOUTH BEND, IND.

EASTERN OFFICE
120 Broadway, New York, N. Y.

Johnson "WATER-BUG"

THE LIGHTEST. LIVELIEST BOAT MOTOR ON THE WATER.

Weighs Only 35 Pounds Complete

A Worthy Companion to Your Power Boat

—and just as dependable. Takes you to shore and back quickly, quietly, easily.

Makes close-in shore explorations possible.

(27)

MoToR BoatinG Advertising Index

A

Adria Supply Co. 83
Aeromarine Plane & Motor Corp. 78
Albany Boat Corp. 112
American Balsa Co. 82
American Brass Co. 85
American Engineering Co. 77
Anderson Engine Co. 80
Atwater Kent Mfg. Co. 66

B

Barker Factory, The 80
Belle Isle Boat & Engine Co. 69-74
Blood Bros. Machine Co. 74
Bosch Magneto Corp., American 97
Bosch Magneto Co., Inc., Robert 72
Bowes, Thomas D. 64
Brennan Motor Mfg. Co. 83
Brooks Co., The 74
Bruns, Kimball & Co., Inc. 59
Bryant & Berry Propeller Co. 76
Buffalo Gasoline Motor Co. 1
Burlington Basket Co. 64
Burroughs-McMeekin Co. 58

C

Cady Co., C. N. 136
Caille Perfection Motor Co. 119
Caldwell & Co., J. E. 84
Carlisle & Finch Co., The 78
Carlyle Johnson Machine Co. 74
Carpenter & Co., Inc., Geo. B. 88
Chalmers Chemical Co. 124
Champion Spark Plug Co. 133
Classified Advertisements 58-59-60-62
Columbian Bronze Corp. 81
Comet Electric Co. 72
Consolidated Shipbuilding Corp. 4th Cover
Cox & Stevens 50-51-64

D

Dachel-Carter Boat Co. 118
Defoe Boat & Motor Works 2
Demuth & Co., Wm. 64
Disappearing Propeller Boat Co. 78
Dobson, B. T. 64
Dodge Boat Wks, Horace E. 5 to 8, 63
Doman, H. C. 75
Donnelly, William T. 74
DuBrie Motor Co. 94

E

Eisemann Magneto Corp. 92
Elco Works, The 2nd Cover
Elto Outboard Motor Co. 109
Erickson, Hubbard H. & Co. 78
Evinrude Motor Co. 101

F

Fay & Bowen Engine Co. 140
Ferdinand & Co., L. W. 117
Fisher, Carl G. 71
Frisbie Motor Co. 123

G

Gardner & Co., Wm. 56
Gielow, Henry J. 52
Gill & Sons Forge & Mach. Wks., P. H. 77
Glidden Co., The 4
Gordon Boat Bldg. Co. 128
Gray Motor Corp. 99
Great Lakes Boat Building Co. 12
Grebe & Co., Henry C. 55

H

Hacker Boat Co., John L. 95
Haddock, R. M. 64
Haggas, E. Lockwood 64
Hall Scott Motor Car Co. 68
Hand, Jr., Wm. H. 64
Hyde, Windlass Co. 74

I

International Mfg. Co. 114
International Ship. & Marine Eng. Co. 73

J

Jennings Co., H. H. 58
Johnson Motor Co. 137
Jones, Frank Bowne 57

K

Keenan, Walter Cook 64
Kermath Mfg. Co. 103
Koban Mfg. Co. 88
Kuhls, H. B. Fred 76
Kyle Co., T. A. 75-102

L

Lockwood-Ash Motor Co. 127

M

McFarland Foundry & Machine Co. 111
Marine Engine Co., of Phila. 61
Marine Wheel Co. 10
Marty, E. O. 59
Masters & Co., W. L. 59
Mathis Yacht Building Co. 107
Millers Motor Corp. 81
Mower, Chas. D. 64
Mullins Body Corp. 126

N

"N" Box 144 81
National Carbon Co. 108
Naval Architects & Yacht Brokers 64
New London Ship & Engine Co. 90
New York Yacht, Launch & Engine Co. 77
Newport News Ship. & Dry Dock Co. 110
Niagara Motors Corp. 104
Nock, Frederick S. 64

O

O'Brien, Clarence A. 134
Oberdorfer Brass Co., M. L. 80
Old Town Canoe Co. 84
Ottawa Cushion Co. 80

P

Packard Motor Car Co. 121
Palmer Bros., Engines, Inc. 132
Paragon Gear Works 3
Peerless Marine Motor Co. 113
Pigeon Hollow Spar Co. 77
Pilotometer Mfg. Co., The 74
Piston Ring Co., The 91
Prentiss-Wabers Stove Co. 105
Purdy Boat Co. 70

R

Racine Boat Co. 100
Rajah Auto Supply Co. 125
Red Bank Yacht Works 78
Red Wing Motor Co. 89
Regal Gasoline Engine Co. 96
Richardson Boat Co. 76
Rigg, Linton Yacht Agency 54-64
Ritchie & Sons, E. S. 78
Roberts Motors 78
Rochester Boat Works 136

S

Sanford, Harry W. 56
Schellenberg, B & Sons 74
Scripps Motor Co. 131
Sea Sled Co. 120
Sexton Motor Co., The 80
Skaneateles Boat & Canoe Co. 124
Smith, Edward & Co. 134
Snow & Petrelli Mfg. Co. 130
Southern Cypress Mfrs. Assn. 78
Spinaway Boat Motor Co. 65
Standard Gear Co. 122
Standard Motor Cons. Co. 2nd Cover
Stearns-McKay Mfg. Co. 96
Stearns Motor Mfg. Co. 129
Sterling Engine Co. 3rd Cover
Syracuse Gear Co. 79

T

Tams & King 53
Tebo Yacht Basin Co. 116
Thompson Bros. Boat Mfg. Co. 64
Tiebout, W. & J. 76
Toppan Boat Mfg. Co. 76
Tvedt-Smith Co. 76

U

Universal Motor Co. 135
Universal Products Co. 75

V

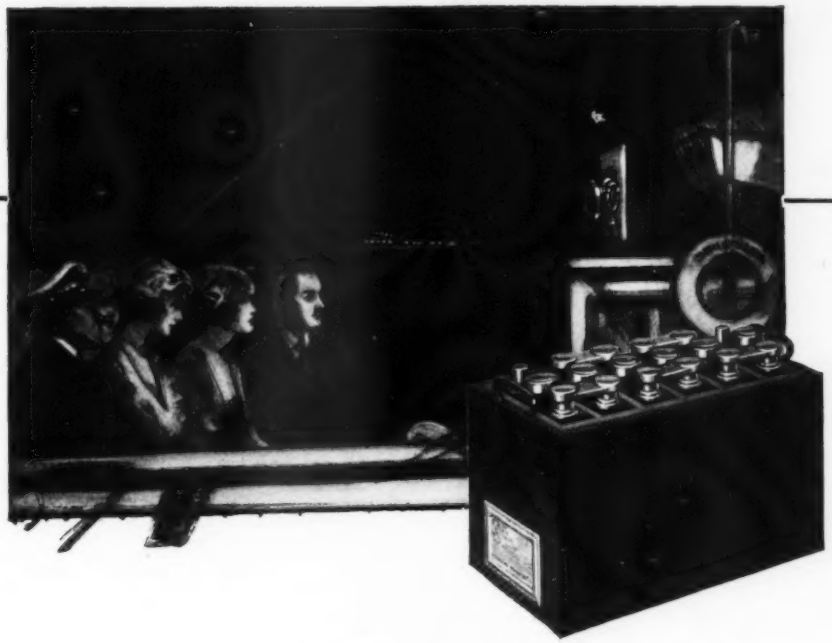
Valentine & Co. 49
Van Blerck Engine Corp., Jos. 80
Venn, Charles 59

W

Wells, John H. 64
Westinghouse Union Battery Co. 139
Westinghouse Electric & Mfg. Co. 87
Wheeler Schebler Carburetor Co., The 93
Wilcox, Crittenden Co., Inc. 73-79-82
Willis Co., E. J. 76
Winton Engine Works 86
Wisconsin Motor Mfg. Co. 11
Woolsey Paint & Color, C. A. 72
Wood, B. F., Inc. 115
Wood, Gar., Inc. 67

Z

Zundel Co., Inc., R. W. 76



You KNOW

When Westinghouse Batteries are a part of your equipment you *know* you'll have dependable ignition no matter how rough the going nor how far you're out.

To make Westinghouse Batteries as near trouble-proof as human ingenuity can accomplish, the highest battery engineering and the finest construction Westinghouse can command are employed.

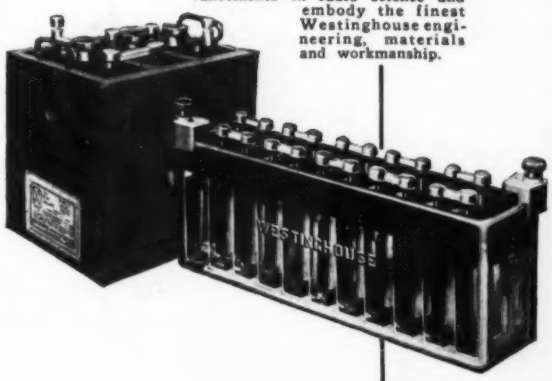
One evidence of this is the fact that Westinghouse Batteries are OVER-SIZE—have as much as 20 per cent greater capacity than ordinary similar size batteries.

Westinghouse Batteries have been adopted as standard equipment by the Miller Engine Company, Peerless Marine Engine Corporation, Standard Motor Construction Company and Sterling Engine Company.

WESTINGHOUSE UNION BATTERY CO.
Swissvale, Pa.

For radio on your boat this summer—

Dependable, even-powered Westinghouse Radio "A" and "B" Batteries mean quicker and sharper tuning and constant mastery of your radio set. They're up to the latest advancements in radio science and embody the finest Westinghouse engineering, materials and workmanship.



WESTINGHOUSE
BATTERIES

PEACE! PERFECT PEACE!

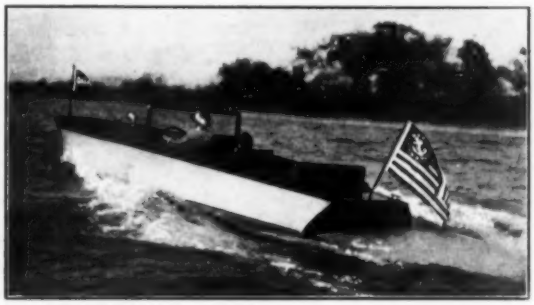
AFTER THE NOISE OF THE CITY—

AFTER THE MONTHS OF TOIL AND HUSTLE—

AFTER THE DUST OF THE CROWDED ROAD—

AFTER THE BUMPS AND DETOURS—

24 FT. JUNIOR



27 FT. RUNABOUT

GLIDING ALONG THE COOL WATERS WITH NEVER A SOUND BUT THE SWISH OF THE WAVES AND THE SOFT PURR OF THE ENGINE, WITH *NATURE*, THE HEALER, SPREAD OUT IN ALL HER WONDROUS GLORY, SOOTHING THE NERVE-RACKED MIND AND REBUILDING THE GERM-SODDEN BODY.

THE *FAIRY CRAFT* IS WAITING! POWERFUL? YES. SPEEDY? YES. BUT GENTLE AS A LAMB, QUIET AS A MOUSE, CLEAN AS A WHISTLE, READY TO ANSWER THE SLIGHTEST TOUCH OF THE HELM, AND WAITING TO CARRY YOU, POOR MORTAL, TO THE LAND OF FORGETFULNESS, AND CONTENTMENT AND *PEACE*.

25 FT. SPORT

WE HAVE DURING THE PAST WINTER BUILT UP A FAIR-SIZED STOCK OF OUR DIFFERENT MODELS, WHICH ARE READY FOR PROMPT DELIVERY. GIVE US THE OPPORTUNITY OF SENDING YOU COMPLETE DATA. THERE IS LITTLE QUESTION BUT WHAT WE HAVE A BOAT TO FIT YOUR NEEDS. DON'T FORGET THAT WE BUILD THE BEST MARINE ENGINES ON THE MARKET.

RELIABILITY F&B

FAY & BOWEN ENGINE COMPANY

104 LAKE STREET, GENEVA, N. Y., U. S. A.

NEW YORK: 44 Third Ave. at 10th St., Sutter Bros., Representatives
PHILADELPHIA: 116 Walnut St., Marine Equipment & Supply Co., Representatives
BOSTON: 84 Atlantic Ave., Gray-Aldrich Co., Representatives

Advertising Index will be found on page 138

V
3
1
5

N
A
Y